Dispositional Optimism Mediates Relations between Childhood Maltreatment and PTSD Symptom Severity Among Trauma-Exposed Adults

Jenny Chen[1,*], **Nicole M. Christ**[2,*], **Chia-Hao Shih**[3], **Hong Xie**[4], **Stephen R Grider**[5], **Chandani Lewis**[1], **Jon D. Elhai**[1,2], **Xin Wang**[1]

[1.]Department of Psychiatry, University of Toledo, Toledo, OH 43606

[2.]Department of Psychology, University of Toledo, Toledo, OH 43606

[3.]Department of Radiology, University of Toledo, Toledo, OH 43606

[4.]Department of Neurosciences, University of Toledo, Toledo, OH 43606

[5.]Department of Emergency Medicine, University of Toledo, Toledo, OH 43606

Abstract

Background: Experiences of maltreatment in childhood, such as abuse and neglect, have been associated with poorer psychological well-being in adulthood, including elevated risk of revictimization and increased likelihood of developing posttraumatic stress disorder (PTSD) symptoms. Maltreatment has also been associated with reduced resources related to resilience, such as optimism, which may act as a protective factor for mental health.

Objectives: In this study, we examined the mediating role of dispositional optimism in the relationship between childhood maltreatment and PTSD symptom severity from recent trauma in a sample of adults (n=108) who presented to their local emergency department following trauma.

Methods: We analyzed six models to account for cumulative childhood maltreatment as well as five primary subtypes of maltreatment: emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect.

Results: Greater dispositional optimism mediated relations between total maltreatment and decreased PTSD severity (B_{ab}=.056, SE=.029, 95% CI [.009, .121]). Optimism also mediated relations between all maltreatment subtypes and PTSD severity, except sexual abuse.

Conclusions: These results may suggest optimism and positive psychology interventions as effective techniques in reducing the likelihood of PTSD development and severity in trauma-exposed individuals.

Corresponding Author: Xin Wang < Xin.Wang2@UToledo.edu>.
*contributed equally

We have no conflicts of interest to disclose.

Keywords

Posttraumatic Stress Disorder; PTSD; Optimism; Child Maltreatment; Child Abuse; Child Neglect

---

Introduction

More than 650,000 children in the United States are subject to abuse or neglect each year (U.S. Department of Health and Human Services, 2017). The frequency of childhood maltreatment is alarming, as exposure to childhood maltreatment is associated with complex and enduring problems into adulthood (Mersky et al., 2010), including increased risk of developing posttraumatic stress disorder (PTSD) from later stressors in adulthood (Brewin, Andrews, & Valentine, 2000; McLaughlin, Conron, Koenen, & Gilman, 2010; McLaughlin et al., 2017). Childhood maltreatment is often divided into multiple subcategories, including emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect. Previous studies have shown mixed findings on which subcategories of childhood maltreatment are related to PTSD severity with some, but not all, subcategories exhibiting a significant positive association with PTSD severity (Widom, 1999; Yehuda, Halligan, & Grossman, 2001).

Childhood Maltreatment and PTSD

Exposure to multiple adversities in one's lifetime is common, if not the norm (Kilpatrick et al., 2013), and, in particular, various types of childhood maltreatment (i.e., abuse and neglect) are associated with increased vulnerability to revictimization later in life (Widom, Czaja, & Dutton, 2008). In fact, it is well documented that individuals who experience childhood sexual abuse are more likely to experience assault in adulthood (Messman & Long, 1996). This revictimization relationship suggests that it is especially important to investigate childhood maltreatment in relation to the development and degree of severity of adult-onset PTSD not only due to the wide prevalence of childhood maltreatment, but also because cumulative trauma is associated with increased PTSD symptom severity (Briere, Agee, & Dietrich, 2016; Cloitre et al., 2009; Ogle, Rubin, & Siegler, 2014). Specifically, different forms of childhood trauma, whether isolated or combined, are also associated with adult revictimization and subsequent PTSD symptom severity (Clemmons et al., 2007; Desir & Karatekin, 2020; Hetzel & McCanne, 2005; Schaaf & McCanne, 1998; Walker et al., 2019). Despite the implications of these findings which recommend early intervention to mitigate these associations, mechanisms by which childhood maltreatment increase the risk of developing PTSD after stressors in adulthood remain unclear.

Optimism

Several factors contribute to positive adaptation, or resilience, of an individual in the face of adversity. Dispositional optimism, or the tendency to expect more good things to happen than bad (Scheier & Carver, 1985; Carver, Scheier, & Segerstrom, 2010; Carver & Scheier, 2014), is one such factor contributing to resilience following traumatic events. Optimism has been associated with positive health outcomes (Carver, Scheier, & Segerstrom, 2010) and contributes to resilience following traumatic events including natural disasters (Carbone

& Echols, 2017), terrorism attacks (Bleich et al., 2006), war (Thomas et al., 2011), critical illness (Myhren et al., 2010), and more common events such as motor vehicle accidents and deaths of loved ones (Gil & Weinberg, 2015). Optimism has also been identified as an adaptive trait among highly resilient people who work in high-stress environments, such as intensive care units (Mealer, Jones, & Moss, 2012).

Childhood maltreatment has been linked to low dispositional optimism (Mersky & Topitzes, 2010; Broekhof et al., 2015). Broekhof and colleagues (2015) suggest one possible explanation for this relationship may be that maltreatment alters children's cognitive beliefs and their ability to generate positive mental imagery of the future. Notably, though childhood adversities have been associated with poorer indicators of resilience and diminished psychological well-being into adulthood (Herrenkohl et al., 2012), elevated levels of optimism predict greater resilience and reduced levels of psychopathology among child abuse survivors (Domhardt et al., 2015; Schaefer et al., 2018). Thus, experiencing maltreatment in childhood may decrease a child's level of optimism, and low optimism following childhood maltreatment may contribute to development of PTSD symptoms after experiencing a traumatic event in adulthood.

Study Aims

Though literature has demonstrated associations among childhood maltreatment, dispositional optimism, and adulthood PTSD, research has yet to fully assess the predictive nature of these variables together. While one study found supportive evidence for a similar hypothesis where dispositional optimism partially mediated the relationship between child abuse and distress (Brodhagen & Wise, 2008), emotional distress is just one symptom associated with PTSD. To address this gap, we focused on the larger symptom set of PTSD so the present study could help clinicians identify key strategies to help individuals expressing elevated PTSD symptoms beyond general distress. Therefore, we sought to understand the role of dispositional optimism in severity of PTSD symptoms following a traumatic event in adulthood after exposure to abuse and/or neglect during childhood. To our knowledge, no research has utilized statistical mediation to examine optimism in the relationship between childhood maltreatment and PTSD. We hypothesized that experiencing childhood maltreatment would predict lower levels of trait optimism, which in turn would facilitate development and severity of PTSD symptoms following trauma in adulthood. Support for these hypotheses may indicate potential benefits of incorporating optimism-enhancing strategies in early post-trauma interventions to potentially help prevent development or progression of PTSD in adults with a history of childhood maltreatment.

Methods

Participants

Adult participants (n=108), ranging from 18 to 60 years old, were recruited after visiting hospital emergency departments (EDs) in Ohio (USA) within 48 hours after a traumatic event. Participants were recruited as part of a larger, ongoing longitudinal study investigating brain changes that predict development of PTSD over a one-year period after exposure to trauma. Patients were excluded if pregnant, under the influence of alcohol or illicit

substances at the time of trauma, had major injuries (Abbreviated Injury Scale score > 2; Association for the Advancement of Automotive Medicine, 2018) or moderate to severe traumatic brain injuries, had major medical problems affecting their general health, or had conditions prohibiting further assessment as part of the larger study. This study was approved by a midwestern US university medical center's institutional review board, and all subjects provided informed written consent. Only participants with elevated symptoms of PTSD (PTSD Checklist-5 scores than 28 during consent process; Weathers, Litz, et al., 2013) were enrolled.

Participants were an average of 33.1 years old (SD= 10.6), mostly Black or African American (52.8%) or White (38.0), and mostly female (65.7%). The most frequent traumatic events that led to ED admittances were motor vehicle accidents (50.9%) and physical assault (41.7%). Table 1 presents information regarding participants' demographics, type of trauma, and childhood maltreatment.

Measures

Dispositional Optimism.—The Revised Life Orientation Test (LOT-R; Scheier, Carver, & Bridges, 1994), consisting of 10 items, assesses participants' dispositional optimism (e.g., "In uncertain times, I usually expect the best") and pessimism (e.g., "If something can go wrong for me, it will"). Of the ten items, six are used to generate a composite score reflecting trait optimism, while the remaining four (items 2, 5, 6, and 8) are filler items. All items were rated on a 5-point Likert scale from 0 (disagree a lot) to 4 (agree a lot). Items measuring pessimism (items 3, 7, and 9) were reverse coded, such that the sum of items reflected a generalized optimism score. Possible optimism scores ranged from 0–24, with higher scores indicating higher levels of trait optimism. Previous psychometric evaluation found this scale reliable and valid (Chiesi et al., 2013), with good internal consistency (α= .80; current study α=.70).

Childhood Maltreatment.—The 28-item retrospective Childhood Trauma Questionnaire (CTQ; Bernstein & Fink, 1998) evaluates five categories of childhood maltreatment: 1) emotional abuse, 2) physical abuse, 3) sexual abuse, 4) emotional neglect, and 5) physical neglect (Bernstein & Fink, 1998; Bernstein et al., 2003). Items were rated on a 5-point Likert scale from 1 (never true) to 5 (very often true). Items in a given subcategory were summed to generate a subscale score that ranged from 5–25, with varying cutoff scores to indicate severity of each type (i.e., none, low, moderate, and severe). Cumulative childhood maltreatment scores were calculated as the sum of subcategory scores. Within this 5-factor framework, the CTQ has consistently demonstrated test-retest reliability, internal consistency across samples (α = .66 to .92), and convergent validity (Berstein & Fink, 1998). In this study, internal consistency for each of the subcategories ranged from good to excellent (α=.81 to α=.97). The remaining three items in the questionnaire constitute the Minimization/Denial subscale, which detects an extreme positive response bias, that is, if responses convey an idyllic representation of childhood (e.g., "I had the perfect childhood"); a score greater than 0 suggests potential underreporting of childhood maltreatment. However, the Minimization/Denial subscale is seldom reported and its value

as a response bias index has been called into question (MacDonald et al., 2015), and thus was not further examined in the current study.

PTSD Symptom Severity.—The Clinician-Administered PTSD Scale (CAPS-5; Weathers, Bovin, et al., 2013) is a 30-item, structured clinical interview that assesses intensity and frequency of PTSD symptoms based on diagnostic criteria in the Diagnostic and Statistical Manual of Mental Disorders, Fifth edition (DSM-5; American Psychiatric Association, 2013). Items were rated on a 5-point Likert scale from 0 (absent) to 4 (extreme/incapacitating). A total score of symptom severity, ranging from 0–80, was calculated by summing scores across the four diagnostic symptom categories: 1) intrusion, 2) avoidance, 3) cognitions and mood, and 4) arousal and reactivity. This composite CAPS-5 score specifically referred to participants' index trauma, that is, the trauma that brought them to the ED. The CAPS-5 has also been shown to demonstrate high interrater reliability, high internal consistency (α=.88; current study α=.94), and good test-retest reliability (Weathers et al., 2018). Interviews were conducted by trained clinical psychology Ph.D. candidates, supervised by a licensed clinical psychologist. Interviewers also evaluated participants' response validity as part of the CAPS-5 (item 26).

Procedure

Patients who visited the ED were first either contacted and consented in person during their visit or later within two weeks of their visit. Within two weeks of the index trauma, participants completed a survey which included first the LOT-R and then the CTQ several measures later. Three months following the index trauma, they were invited to participate in an in-person interview (CAPS-5) for evaluation of PTSD severity. Thus, the measures of dispositional optimism and history of childhood maltreatment were collected within two weeks of the index trauma, whereas PTSD severity was determined three months following the index trauma.

Data Analyses

The variables of interest included childhood maltreatment (CTQ cumulative and subscale scores), dispositional optimism (LOT-R), and PTSD symptom severity (CAPS-5). Bivariate Pearson correlation analyses were first used to evaluate bivariate linear relationships among variables of interest. Next, mediation analyses were conducted to test the extent to which dispositional optimism mediates associations between childhood maltreatment and PTSD symptom severity while controlling for age and gender. In total, six mediation analyses were conducted. In the first mediation analysis, we used cumulative CTQ scores as the independent variable, LOT-R scores as the mediator, and CAPS-5 scores as the dependent variable. Then, the continuous subcategory score from each of the five childhood maltreatment categories (separately in each analysis) was used to represent childhood maltreatment subtype severity, entered as the independent variable in subsequent mediation models separately. Age and gender were entered as covariates based on previous research demonstrating older age (Johnson & Thompson, 2008) and female gender (Tolin & Foa, 2008; Kobayashi, Sledjeski, & Delahanty, 2019) as risk factors for developing PTSD, and there is some evidence that age-based subgroups of women may be at particularly high risk (Kobayashi, Sledieski, & Delahanty, 2019; Johnson & Thompson, 2008). All analyses were

conducted in SPSS, and mediation was conducted using the PROCESS macro developed by Hayes (2018). For mediation analyses, we used bootstrapping with 5,000 samples to establish the 95% confidence intervals (CIs). A significant indirect (i.e., mediation) effect was reported if the 95% CI did not include zero. Statistical significance was set at $\alpha = .05$.

Results

Eight participants were excluded because they exceed the global validity cutoff on the CAPS-5 (i.e., item 26 was > 2), indicating that interviewers deemed their responses to be of substantially reduced validity. The interviewers arrived at this score after taking several factors into account such as participant compliance, mental status, and any efforts to exaggerate or minimize symptoms. Another nine participants were excluded because their index trauma did not meet PTSD's trauma criterion (Criterion A from DSM-5; American Psychiatric Association, 2013). Finally, three participants were removed from analysis for missing all items on the LOT-R and CTQ; there were no item-level missing data in the remaining sample. Therefore, our final analysis was based on the data from 108 participants.

Overall, 96.3% (n=104) of our sample of participants who presented to an ED for effects of trauma exposure reported some level of childhood maltreatment, though severity for each category of reported maltreatment varied and a number of participants endorsed multiple types of childhood maltreatment (see Table 1 for frequencies for each category of maltreatment). Of all participants, the average rate of endorsement for emotional neglect (M = 13.53, SD = 5.76) was categorized as "Low," while physical neglect (M = 10.08, SD = 4.73) was in the "Moderate" range (Bernstein & Fink, 1998). Average rates of reported emotional abuse (M = 13.65, SD = 6.75), physical abuse (M = 10.80, SD = 5.79), and sexual abuse (M = 10.87, SD = 7.51) were all in the "Moderate" range (Bernstein & Fink, 1998). Table 2 displays the correlation coefficients and descriptive statistics of variables of interest. At 3 months following their traumatic event as an adult, 27.8% (n = 30) of participants met criteria for a diagnosis of PTSD from their index trauma based on the CAPS-5.

Mediation Analyses

In the overall model (illustrated in Figure 1), the indirect effect of optimism on the association between cumulative childhood maltreatment and PTSD symptom severity was significant ($B_{ab} = .056$, SE = .029, 95% CI [.009, .121]). This model accounted for a significant amount of variance in PTSD symptom severity ($R^2 = .111$, $p = .007$). The total effect between cumulative childhood maltreatment and PTSD symptom severity was significant ($B_c = .176$, SE = .0611, 95% CI [.055, .297]), while the direct effect between cumulative childhood maltreatment and PTSD symptom severity when holding optimism level constant was not ($B_{c'} = .119$, SE = .063, 95% CI [−.005, .245]), suggesting full mediation. While held as covariates, neither age nor gender significantly affected any of the mediation models (all $ps > .05$).

Mediation statistics for all CTQ subscale models are reported in Table 3. In the abuse subscales, there were significant indirect effects of optimism between both emotional abuse ($B_{ab} = .215$, SE = .109) and physical abuse ($B_{ab} = .235$, SE = .118) and PTSD symptom severity. In both of these models, the total effect was significant ($ps < .01$); however, while

holding optimism constant, the direct effect of the type of abuse (emotional or physical) on PTSD symptom severity was not significant ($ps > .05$). The indirect effect between childhood sexual abuse and PTSD symptom severity was not significant ($B_{ab} = .111$, SE $= .079$), though both the total effect ($B_c = .522$, SE $= .211$, $p = .015$) and direct effect ($B_{c'} = .211$, SE $= .206$, $p = .048$) were significant. Similar to results of emotional and physical abuse, the indirect effect of optimism was significant in the relationship for both emotional ($B_{ab} = .207$, SE $= .120$) and physical ($B_{ab} = .181$, SE $= .105$) neglect and PTSD symptom severity. In both models, the total effect and direct effect between neglect and PTSD symptom severity were not significant ($ps > .05$). To address concerns about potential overlap between dispositional optimism and the negative alterations in cognitions and mood (NACM) cluster of PTSD, all mediation analyses were replicated with a continuous outcome variable of posttraumatic stress severity, after removing NACM item content from the PTSD severity score. These findings are presented in the Supplemental Results and Supplemental Table 1.

Discussion

We examined the extent to which optimism mediates the association between childhood maltreatment and PTSD symptom severity. Mediation analyses revealed that optimism, indeed, mediated the relationship between overall cumulative childhood maltreatment and PTSD symptom severity as hypothesized. Thus, more severe childhood maltreatment was associated with lower optimism, which in turn was associated with more severe PTSD symptoms. We then further tested this relationship by modeling subtypes of childhood maltreatment separately and found similar patterns in some, but not all, of the subtypes. Specifically, optimism mediated the relationship between all childhood maltreatment types except childhood sexual abuse.

Optimism may have a protective function against negative health outcomes because individuals with high levels of optimism are more likely to adapt and actively exert effort to manage stressors and less likely to disengage in the face of adversity (Carver & Gaines, 1987; Carver et al., 2010; Conversano et al., 2010). In fact, optimists are more likely than pessimists to use positive coping strategies that involve focusing on the problem, finding social support, and making positive reinterpretations of the stressful event, which are more likely to pay off in stressful situations (Scheier, Weintraub, & Carver, 1986). Optimism has also been linked to lower levels of avoidance used as a coping strategy (Carver et al., 2010), which may further help to explain how optimism may be a protective factor against PTSD, as avoidance predicts PTSD severity (Marx & Sloan, 2005).

Notably, of the four significant models, when optimism was held constant, the direct effect of abuse (emotional and physical) no longer significantly predicted PTSD severity, but neglect (emotional and physical) did. These findings may suggest that while optimism appears important in explaining relationships in all of these models, it is particularly salient in accounting for variance between a history of child abuse and PTSD symptom severity. These results are similar to what Brodhagen and Wise (2008) found in their analyses using child abuse and optimism to predict distress, though they did not examine neglect. We reason that unlike abuse, neglect is often unintentional (Golden, Samuels, & Southall, 2003),

and thus may not have as deleterious effects on optimism, which consequently may diminish the role of optimism on future PTSD symptoms. Still, there is a general paucity of research on childhood neglect compared to childhood abuse so future research may benefit from further investigating this dimension of childhood maltreatment.

Inconsistent with study hypotheses, while history of child sexual abuse predicted PTSD severity as expected, optimism did not mediate this relationship. Brodhagen and Wise (2008) similarly found that optimism did not mediate the relationship between childhood sexual abuse and distress. They reasoned that it may be in part due to their small proportion of participants who reported a history of childhood sexual abuse (18%). However, in our sample, 46% of participants reported a history of childhood sexual abuse, which suggests that lack of a mediation effect of optimism may be more likely due to other factors concerning the sexual abuse experience. Other studies have shown that characteristics of sexual abuse such as the duration and frequency, age of onset, perpetrator identity, penetration, pain, enforcement of abuse with violence or threats, and the perceived threat to life or helplessness are associated with PTSD symptoms (Kendall-Tackett, Williams, & Finkelhor, 1993; Kiser et al., 2014; Leahy, Pretty, & Tenenbaum, 2004; Steine et al., 2017). These factors may help explain the lack of a mediation effect observed in the present study, but such factors were not measured in the present study. Another possible explanation may be the effect of poly-victimization.

Strengths and Limitations

Strengths of this study include use of a longitudinal design that allowed for a 3-month post-trauma follow-up assessment and use of structured diagnostic interviews (i.e., CAPS-5), the current gold standard for diagnosing PTSD, to assess trauma exposure and PTSD symptom severity. The present study, to our knowledge, is the first show that dispositional optimism mediated the association between childhood maltreatment and PTSD symptom severity. Yet, some methodological limitations should be noted. First, childhood maltreatment and dispositional optimism were assessed via self-report shortly after experiencing a traumatic event, and one could argue that low dispositional optimism may have affected participants' recall. However, the CTQ has been shown to have high levels of convergence with childhood maltreatment data collected via structured interviews (Bernstein et al., 1994) and with prospectively ascertained childhood maltreatment data (Liebschutz et al., 2018; Reuben et al., 2016). It is notable that our sample consisted largely of individuals who have experienced at least some degree of childhood maltreatment (96%), despite the fact that we did not directly recruit participants on this basis. This is consistent with a similar hospital-based study recruiting trauma-exposed adults who present to the ED following violent injury (Corbin et al., 2013). Additionally, the majority of participants in our sample reported experiencing more than one type of childhood maltreatment, again consistent with a similar hospital-based study (Corbin et al., 2013), and poly-victimization appeared particularly prevalent in individuals who had experienced sexual abuse as a child. Because participants with multiple types of maltreatment history were included in more than one mediation analyses, results should be interpreted with caution that there may be confounding effects of multiple childhood maltreatment types. However, the mediation effect of optimism persists when looking at the link between cumulative childhood maltreatment score (which accounts

for poly-victimization) and PTSD symptom severity. Post-hoc power analysis based on resulting effect size revealed that most of our analyses achieved adequate power (i.e., 1- β .80), though those that did not should be interpreted with caution.

Implications and Conclusions

The current study found that dispositional optimism mediated the link between childhood maltreatment and PTSD. This result was consistent across four subtypes of childhood maltreatment and cumulative childhood maltreatment score. As noted in prior research, maltreatment during childhood is associated with complex and enduring impacts into adulthood (Mersky et al., 2010), and delineating the effects of maltreatment on specific disorders, particularly by examining mediators in those relationships, may suggest important implications for intervention strategies (Taillieu et al., 2016). For individuals with a history of childhood maltreatment, particularly those who experienced emotional or physical abuse or neglect, elevating their level of optimism may increase their resilience and act as a buffer to PTSD symptoms following a traumatic event in adulthood. Recently, research has begun to examine the possibility of increasing resiliency and other positive adaption resources, such as optimism, through PTSD interventions. For example, one study found that Cognitive Processing Therapy (CPT; Resick & Schnicke, 1992) had a moderate effect on optimism themed changes, such as feeling able to manage problems and cope with new stressful events (Mahmooth et al., 2018). More research into protective effects of optimism is warranted, particularly involving those who experienced childhood maltreatment and may be more susceptible to developing PTSD as a result.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

ACKNOWLEDGMENTS

REFERENCES

Association for the Advancement of Automotive Medicine. (2018). Abbreviated Injury Scale: 2015 Revision (6th ed.). Chicago, IL.

American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (DSM-5). Washington, DC: American Psychiatric Pub.

Bernstein DP, & Fink L. (1998). Childhood Trauma Questionnaire: A retrospective self-report manual. San Antonio, TX: The Psychological Corporation.

Bernstein DP, Fink L, Handeisman L, Foote J, Lovejoy M, Wenzel K, Sapareto E, & Ruggiero J. (1994). Initial reliability and validity of a new retrospective measure of child abuse and neglect. The American Journal of Psychiatry, 151(8), 1132–1136. [PubMed: 8037246]

Bernstein DP, Stein JA, Newcomb MD, Walker E, Pogge D, Ahluvalia T, Stokes J, Handelsman L, Medrano M, Desmond D, & Zul W. (2003). Development and validation of a brief screening version of the Childhood Trauma Questionnaire. Child Abuse and Neglect, 27(2), 169–190. [PubMed: 12615092]

Bleich A, Gelkopf M, Melamed Y, & Solomon Z. (2006). Mental health and resiliency following 44 months of terrorism: A survey of an Israeli national representative sample. BMC Medicine, 4(1), 21. [PubMed: 16934160]

Brewin CR, Andrews B, & Valentine JD. (2000). Meta-analysis of risk factors for posttraumatic stress disorder in trauma-exposed adults. Journal of Consulting and Clinical Psychology, 68(5), 748–766. [PubMed: 11068961]

Briere J, Agee E, & Dietrich A. (2016). Cumulative trauma and current posttraumatic stress disorder status in general population and inmate samples. Psychological Trauma: Theory, Research, Practice, and Policy, 8(4), 439–446. [PubMed: 26752099]

Brodhagen A, & Wise D. (2008). Optimism as a mediator between the experience of child abuse, other traumatic events, and distress. Journal of Family Violence, 23(6), 403–411.

Broekhof R, Rius-Ottenheim N, Spinhoven P, Van Der Mast RC, Penninx BWJH, Zitman FG, & Giltay EJ. (2015). Long-lasting effects of affective disorders and childhood trauma on dispositional optimism. Journal of Affective Disorders, 175, 351–358. [PubMed: 25665495]

Carbone EG, & Echols ET. (2017). Effects of optimism on recovery and mental health after a tornado outbreak. Psychology and Health, 32(5), 530–548. [PubMed: 28156138]

Carver CS, & Gaines JG. (1987). Optimism, Pessimism, and Postpartum Depression. In Cognitive Therapy and Research, 11(4), 449–462.

Carver CS, & Scheier MF. (2014). Dispositional optimism. Trends in Cognitive Sciences, 18(6), 293–299. [PubMed: 24630971]

Carver CS, Scheier MF, & Segerstrom SC. (2010). Optimism. Clinical Psychology Review, 30(7), 879–889. [PubMed: 20170998]

Chiesi F, Galli S, Primi C, Innocenti Borgi P, & Bonacchi A. (2013). The accuracy of the Life Orientation Test–Revised (LOT–R) in measuring dispositional optimism: Evidence from item response theory analyses. Journal of Personality Assessment, 95(5), 523–529. [PubMed: 23570253]

Clemmons JC, Walsh K, DiLillo D, & Messman-Moore TL. (2007). Unique and combined contributions of multiple child abuse types and abuse severity to adult trauma symptomatology. Child maltreatment, 12(2), 172–181. [PubMed: 17446570]

Cloitre M, Stolbach BC, Herman JL, Kolk BVD, Pynoos R, Wang J, & Petkova E. (2009). A developmental approach to complex PTSD: Childhood and adult cumulative trauma as predictors of symptom complexity. Journal of Traumatic Stress, 22(5), 399–408. [PubMed: 19795402]

Conversano C, Rotondo A, Lensi E, Della Vista O, Arpone F, & Reda MA. (2010). Optimism and its impact on mental and physical well-being. Clinical Practice & Epidemiology in Mental Health, 6(1), 25–29. [PubMed: 20592964]

Corbin TJ, Purtle J, Rich LJ, Rich JA, Adams EJ, Yee G, & Bloom SL. (2013). The prevalence of trauma and childhood adversity in an urban, hospital-based violence intervention program. Journal of health care for the poor and underserved, 24(3), 1021–1030. [PubMed: 23974377]

Desir MP, & Karatekin C. (2020). Interpersonal factors influencing risk for revictimization in two samples of young adults. Journal of Family Trauma, Child Custody & Child Development, 17(2), 89–115.

Domhardt M, Münzer A, Fegert JM, & Goldbeck L. (2015). Resilience in survivors of child sexual abuse: A systematic review of the literature. Trauma, Violence, and Abuse, 16(4), 476–493.

Gil S, & Weinberg M. (2015). Coping strategies and internal resources of dispositional optimism and mastery as predictors of traumatic exposure and of PTSD symptoms: A prospective study. Psychological Trauma: Theory, Research, Practice, and Policy, 7(4), 405–411. [PubMed: 25866962]

Golden MH, Samuels MP, & Southall DP. (2003). How to distinguish between neglect and deprivational abuse. Archives of Disease in Childhood, 88(2), 105–107. [PubMed: 12538306]

Hayes AF. (2018). Introduction to mediation, moderation, and conditional process analysis second edition: A regression-based approach. New York, NY: Guilford Press.

Herrenkohl TI, Klika JB, Herrenkohl RC, Russo MJ, & Dee T. (2012). A prospective investigation of the relationship between child maltreatment and indicators of adult psychological well-being. Violence and Victims, 27(5), 764–776. [PubMed: 23155725]

Hetzel MD, & McCanne TR. (2005). The roles of peritraumatic dissociation, child physical abuse, and child sexual abuse in the development of posttraumatic stress disorder and adult victimization. Child Abuse & Neglect, 29(8), 915–930. [PubMed: 16125234]

Johnson H, & Thompson A. (2008). The development and maintenance of post-traumatic stress disorder (PTSD) in civilian adult survivors of war trauma and torture: A review. Clinical Psychology Review, 28(1), 36–47. [PubMed: 17383783]

Kendall-Tackett KA, Williams LM, & Finkelhor D. (1993). Impact of sexual abuse on children: A review and synthesis of recent empirical studies. In Psychological Bulletin, 113(1), 164. [PubMed: 8426874]

Kilpatrick DG, Resnick HS, Milanak ME, Miller MW, Keyes KM, & Friedman MJ. (2013). National estimates of exposure to traumatic events and PTSD prevalence using DSM-IV and DSM-5 criteria. Journal of Traumatic Stress, 26(5), 537–547. [PubMed: 24151000]

Kiser LJ, Stover CS, Navalta CP, Dorado J, Vogel JM, Abdul-Adil JK, Kim S, Lee RC, Vivrette R, & Briggs EC. (2014). Effects of the child-perpetrator relationship on mental health outcomes of child abuse: It's (not) all relative. Child Abuse and Neglect, 38(6), 1083–1093. [PubMed: 24661693]

Kobayashi I, Sledjeski EM, & Delahanty DL. (2019). Gender and age interact to predict the development of posttraumatic stress disorder symptoms following a motor vehicle accident. Psychological Trauma: Theory, Research, Practice, and Policy, 11(3), 328–336. [PubMed: 29446964]

Leahy T, Pretty G, & Tenenbaum G. (2004). Perpetrator methodology as a predictor of traumatic symptomatology in adult survivors of childhood sexual abuse. Journal of Interpersonal Violence, 19(5), 521–540. [PubMed: 15104859]

Liebschutz JM, Buchanan-Howland K, Chen CA, Frank DA, Richardson MA, Heeren TC, Cabral HJ, & Rose-Jacobs R. (2018). Childhood Trauma Questionnaire (CTQ) correlations with prospective violence assessment in a longitudinal cohort. Psychological assessment, 30(6), 841. [PubMed: 29847987]

Mahmooth Z, Weiss WM, Zangana GAS, & Bolton P. (2018). Study participant reported outcomes of mental health interventions: Results from a randomized controlled trial among survivors of systematic violence in southern Iraq. Global Mental Health, 5.

Marx BP, & Sloan DM. (2005). Peritraumatic dissociation and experiential avoidance as predictors of posttraumatic stress symptomatology. Behaviour Research and Therapy, 43(5), 569–583. [PubMed: 15865913]

MacDonald K, Thomas ML, MacDonald TM, & Sciolla AF. (2015). A perfect childhood? Clinical correlates of minimization and denial on the childhood trauma questionnaire. J Interpers Violence, 30(6), 988–1009. [PubMed: 24981003]

McLaughlin KA, Conron KJ, Koenen KC, & Gilman SE. (2010). Childhood adversity, adult stressful life events, and risk of past-year psychiatric disorder: A test of the stress sensitization hypothesis in a population-based sample of adults. Psychological Medicine, 40, 1647–1658. [PubMed: 20018126]

McLaughlin KA, Koenen KC, Bromet EJ, Karam EG, Liu H, Petukhova M, Ruscio AM, Sampson NA, Stein DJ, Aguilar-Gaxiola S, & Alonso J. (2017). Childhood adversities and post-traumatic stress disorder: Evidence for stress sensitisation in the World Mental Health Surveys. The British Journal of Psychiatry, 211(5), 280–288. [PubMed: 28935660]

Mealer M, Jones J, & Moss M. (2012). A qualitative study of resilience and posttraumatic stress disorder in United States ICU nurses. Intensive Care Medicine, 38, 1445–1451. [PubMed: 22618093]

Mersky JP, & Topitzes J. (2010). Comparing early adult outcomes of maltreated and non-maltreated children: A prospective longitudinal investigation. Children and Youth Services Review, 32(8), 1086–1096. [PubMed: 27667886]

Messman TL, & Long PJ. (1996). Child sexual abuse and its relationship to revictimization in adult women: A review. Clinical Psychology Review, 16(5), 397–420.

Myhren H, Ekeberg Ø, Tøien K, Karlsson S, & Stokland O. (2010). Posttraumatic stress, anxiety and depression symptoms in patients during the first year post intensive care unit discharge. Critical Care, 14(1).

Ogle CM, Rubin DC, & Siegler IC. (2014). Cumulative exposure to traumatic events in older adults. Aging and Mental Health, 18(3), 316–325. [PubMed: 24011223]

Resick PA, & Schnicke MK. (1992). Cognitive processing therapy for sexual assault victims. Journal of Consulting and Clinical Psychology, 60(5), 748–756. [PubMed: 1401390]

Reuben A, Moffitt TE, Caspi A, Belsky DW, Harrington H, Schroeder F, Hogan S, Ramrakha S, Poulton R, & Danese A. (2016). Lest we forget: Comparing retrospective and prospective assessments of adverse childhood experiences in the prediction of adult health. Journal of Child Psychology and Psychiatry and Allied Disciplines, 57(10), 1103–1112. [PubMed: 27647050]

Schaaf KK, & McCanne TR. (1998). Relationship of childhood sexual, physical, and combined sexual and physical abuse to adult victimization and posttraumatic stress disorder. Child abuse & neglect, 22(11), 1119–1133. [PubMed: 9827317]

Schaefer LM, Howell KH, Schwartz LE, Bottomley JS, & Crossnine CB. (2018). A concurrent examination of protective factors associated with resilience and posttraumatic growth following childhood victimization. Child Abuse and Neglect, 85, 17–27. [PubMed: 30205895]

Scheier MF, & Carver CS. (1985). Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. Health Psychology, 4(3), 219. [PubMed: 4029106]

Scheier MF, Carver CS, & Bridges MW. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A reevaluation of the Life Orientation Test. Journal of Personality and Social Psychology, 67(6), 1063 [PubMed: 7815302]

Scheier MF, Weintraub JK, & Carver CS. (1986). Coping with stress: Divergent strategies of optimists and pessimists. Journal of Personality and Social Psychology, 51(6), 1257. [PubMed: 3806361]

Steine IM, Winje D, Skogen JC, Krystal JH, Milde AM, Bjorvatn B, Nordhus IH, Grønli J, & Pallesen S. (2017). Posttraumatic symptom profiles among adult survivors of childhood sexual abuse: A longitudinal study. Child Abuse and Neglect, 67, 280–293. [PubMed: 28327414]

Taillieu TL, Brownridge DA, Sareen J, & Afifi TO. (2016). Childhood emotional maltreatment and mental disorders: Results from a nationally representative adult sample from the United States. Child Abuse & Neglect, 59, 1–12. [PubMed: 27490515]

Thomas JL, Britt TW, Odle-Dusseau H, & Bliese PD. (2011). Dispositional optimism buffers combat veterans from the negative effects of warzone stress on mental health symptoms and work impairment. Journal of Clinical Psychology, 67(9), 866–880. [PubMed: 21590690]

Tolin DF, & Foa EB. (2008). Sex differences in trauma and posttraumatic stress disorder: A quantitative review of 25 years of research. U.S. Department of Health and Human Services. (2017). Child Maltreatment 2017. Children's Bureau: An office of the Administration for Children & Families. Retrieved June 19, 2020 from https://www.acf.hhs.gov/cb/research-data-technology/statistics-research/child-maltreatment.

Walker HE, Freud JS, Ellis RA, Fraine SM, & Wilson LC. (2019). The prevalence of sexual revictimization: A meta-analytic review. Trauma, Violence, & Abuse, 20(1), 67–80.

Weathers FW, Blake D, Schnurr P, Kaloupek D, Marx B, & Keane T. (2013). The Clinician-Administered PTSD Scale for DSM-5 (CAPS-5). Retrieved from www.ptsd.va.gov.

Weathers FW, Litz BT, Keane TM, Palmieri PA, Marx BP, & Schnurr PP. (2013). The PTSD Checklist for DSM-5 (PCL-5). Retrieved from www.ptsd.va.gov.

Weathers FW, Bovin MJ, Lee DJ, Sloan DM, Schnurr PP, Kaloupek DG, Keane TM, & Marx BP. (2018). The Clinician-Administered PTSD Scale for DSM–5 (CAPS-5): Development and initial psychometric evaluation in military veterans. Psychological Assessment, 30(3), 383. [PubMed: 28493729]

Widom CS. (1999). Posttraumatic Stress Disorder in abused and neglected children grown up. American Journal of Psychiatry, 156(8), 1223–1229. [PubMed: 10450264]

Widom CS, Czaja SJ, & Dutton MA. (2008). Childhood victimization and lifetime revictimization. Child Abuse & Neglect, 32(8), 785–796. [PubMed: 18760474]

Yehuda R, Halligan SL, & Grossman R. (2001). Childhood trauma and risk for PTSD: Relationship to intergenerational effects of trauma, parental PTSD, and cortisol excretion. Development and Psychopathology, 13(3), 733–753. [PubMed: 11523857]

Highlights

- Childhood maltreatment predicts PTSD severity from an adult trauma

- Optimism mediates cumulative childhood maltreatment and adult PTSD severity

- Optimism mediates four subcategories of childhood maltreatment and PTSD severity

Figure 1.
Mediating role of optimism on cumulative childhood caltreatment and PTSD symptom severity.

Table 1.

Participant demographics and characteristics.

Age	Mean (SD) 33.1 (10.6)
	n (%)
Gender	
Female	71 (65.7%)
Male	37 (34.3%)
Race	
Black or African American	57 (52.8%)
White	41 (38.0%)
Asian	1 (0.9%)
Other	2 (1.9%)
Unknown	7 (6.5%)
Type of Index Trauma	
Motor Vehicle Accident	55 (50.9%)
Physical Assault	4 (41.7%)
Sexual Assault	5 (4.6%)
Other (e.g., falls, animal attacks)	3 (2.8%)
History of Childhood Maltreatment	
Emotional Abuse	90 (83.3%)
Physical Abuse	81 (75.0%)
Sexual Abuse	55 (50.9%)
Emotional Neglect	97 (89.8%)
Physical Neglect	81 (75.0%)
Number of Childhood Maltreatment Types	
None	12 (11.1%)
One Type	13 (12.0%)
Two Types	13 (12.0%)
Three Types	18 (16.7%)
Four Types	19 (17.6%)
Five Types	33 (30.6%)

Table 2.

Pearson correlations and descriptive statistics of variables.

	1.	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**	**Mean (SD)**
1. CTQ Total	–								58.9 (24.3)
2. CTQ-EA	.92**	–							13.7 (6.8)
3. CTQ-PA	.83**	.72**	–						10.8 (5.8)
4. CTQ-SA	.66**	.52**	.39**	–					10.9 (7.5)
5. CTQ-EN	.81**	.76**	.56**	.28**	–				13.5 (5.8)
6. CTQ-PN	78**	.67**	.67**	.23*	.69**	–			10.1 (4.7)
7. Optimism	−.31**	−.33**	−.35**	−.14	−.23*	−.19*	–		13.5 (4.8)
8. PTSD	.31**	.32**	.30**	.29**	.15	.14	.31**	–	20.12 (15.3)

Note. CTQ= Childhood Trauma Questionnaire; EA= emotional abuse subscale; PA= physical abuse subscale; SA= sexual abuse subscale; EN= emotional neglect subscale; PN= physical neglect subscale.

**p<.01

*p<.05

Table 3.

Model estimates of optimism in mediating individual CTQ subscales and PTSD symptom severity.

CTQ Subscale (X)	Path a (X → M)		Path b (M → Y)		Path c (X → Y; Total Effect)		Indirect Effect	R²	Achieved Power
	B_a (SE)	*P*	B_b (SE)	*P*	B_c (SE)	*P*	B_{ab} [95% CT]		1-β
Emotional Abuse	−.270 (.068)	<.001*	−.794 (.309)	.012*	.655 (.220)	.004*	**.215 [.038, .455]**	.115*	.88
Physical Abuse	−.290 (.078)	<.001*	−.810 (.307)	.001*	.727 (251)	.005*	**.235 [.043, .504]**	.112*	.87
Sexual Abuse	−.122 (.068)	.076	−.908 (.292)	.002*	.522 (211)	.015*	.111 [−018, .295]	.093*	.79
Emotional Neglect	−.213 (.079)	.009*	−.969 (.303)	.002*	.338 (.256)	.190	**.207 [.246, .492]**	.055	.52
Physical Neglect	−.188 (.097)	.056	−.965 (.298)	.002*	.420 (.308)	.175	**.181 [.007, .415]**	.057	.54

Note. B= unstandardized path coefficient; SE= standard error; CTQ= Childhood Trauma Questionnaire; X= CTQ subscale as predictor variable; M= optimism as mediator variable; Y= PTSD symptom severity as outcome variable; R^2 = coefficient of multiple determination.

Bolded text indicate significant indirect effects.

*
p<.05