



# The Relationship Between Negative Self-Concept, Trauma, and Maltreatment in Children and Adolescents: A Meta-Analysis

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## Abstract

Experiencing trauma in childhood is a global public health issue linked to worse physical and mental health outcomes, including Post-Traumatic Stress Disorder (PTSD). Self-concept is a transdiagnostic concept linked to various psychopathologies and understanding its unique relationship to trauma is important. This meta-analysis aimed to understand the size of the effect between trauma and maltreatment and self-concept in children and adolescents. The current meta-analysis searched PubMed, PILOTS, PsycINFO, and Web of Science databases. Inclusion criteria involved studies with defined trauma exposure, valid measures of self-concept, and participants' mean age under 18 years old. One-hundred-and-thirty-four studies were included in the meta-analysis ( $N = 255,334$ ). A random-effects meta-analysis was performed. A small negative relationship was observed between trauma exposure and self-concept ( $r = -0.20$ , 95% CI  $-0.22, -0.18$ ). This relationship was significantly moderated by some variables (type and nature of trauma exposure) but not others (participant gender, type of self-concept measure, quality of studies, country economic status). A small relationship between trauma exposure and negative self-concept in children and adolescents was detected, with repeated trauma exposure and type of trauma exposure moderating this relationship. This provides important directions for clinical practice around providing support for those exposed or most vulnerable to experiencing trauma.

**Keywords** Trauma · Maltreatment · Negative self-concept · Children · Adolescents

## Introduction

Exposure to child trauma or maltreatment is an issue that impacts children worldwide. Childhood maltreatment can refer to any type of abuse that has the potential to cause harm to individuals (Gardner et al., 2019; Krug et al., 2002); this can include physical, emotional and sexual abuse, and neglect. Approximately 36%, 22%, and 16% of children have experienced emotional abuse, physical abuse, and neglect, respectively, worldwide (World Health Organization, 2014). The prevalence of poly-victimization has been reported to be between 38% in children from Low–Middle-Income Countries (Le et al., 2016). The prevalence of certain types of maltreatment, such as sexual abuse, is reported to be higher among girls compared to boys (Stoltenborgh et al.,

2011). Many studies have explored the long-term effects of exposure to childhood trauma and maltreatment. Meta-analyses looking at the impact of childhood maltreatment in adulthood have found that experiencing maltreatment significantly increases the risk of developing chronic illnesses (Nelson et al., 2017) and other physical health outcomes, such as obesity and persistent physical symptoms (Afari et al., 2014; Danese & Tan, 2014) over the lifespan.

Other studies have found that having experienced physical and sexual abuse significantly increases the risk of receiving a diagnosis of anxiety and depressive disorders in adulthood (Gardner et al., 2019). This association is reported to be larger for women than for men (Gallo et al., 2018). The association between exposure to childhood trauma and mental health outcomes is found to be larger in those with greater exposure, with a particularly increased risk for those exposed to emotional abuse and neglect (Humphreys et al., 2020). Additionally, those who experienced physical and sexual abuse in childhood have an over 70% increased risk of drug abuse in adulthood, with women additionally being at a greater risk than men (Halpern et al., 2018). Therefore,

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a strong link exists between exposure to trauma in childhood and later life mental and physical outcomes, with greater exposure to trauma and being female increasing this risk.

There is additionally a body of literature that has explored this relationship between exposure to trauma and mental and physical health in childhood. Evans et al.'s (2008) meta-analysis found a medium effect between children's exposure to domestic violence and post-traumatic stress symptoms, internalizing behaviors, such as anxiety, and externalizing behaviors, such as aggression in childhood. Other studies have found that exposure to childhood trauma is linked to poor educational outcomes (Romano et al., 2015) and many studies have found that victimization in adolescence has been linked to increased post-traumatic stress symptoms (Soler, 2012) and linked to a decrease in self-compassion (Tanaka et al., 2011). Research has found that up to 25% of children exposed to a traumatic event met threshold for a diagnosis of post-traumatic stress disorder, with rates increased for children exposed to interpersonal traumas (Alisic et al., 2014; Peltonen & Punamaki, 2010; Punamaki, 2008; Taylor & Chemtob, 2004).

A particular outcome that has been explored in the literature is the relationship between exposure to childhood trauma and self-concept. The term self-concept is an umbrella term which refers to a collection of beliefs, ideas, and perceptions about oneself; it refers to one's own self-image (Burnett, 1994). This umbrella term encompasses concepts, such as self-esteem and self-identity. Self-concept is additionally an important transdiagnostic concept in mental health, often linked to various psychopathologies (Zeigler-Hill, 2011). According to the International Classification of Diseases-11th version (ICD-11) (WHO, 2018), negative self-concept encompasses one of the three additional criteria needed to meet the diagnosis of Complex Post-Traumatic Stress Disorder (PTSD). The ICD-11 more specifically refers to this concept as beliefs about oneself as being worthless or diminished with accompanying feelings of guilt or shame (WHO, 2018). It has been widely studied in the literature and most notably Rosenberg's Self-Esteem Scale (1965) has been used internationally to measure this.

Longitudinal and retrospective studies have looked at this relationship between self-concept and exposure to traumatic events more specifically. Research suggests that exposure to traumatic events in an individual's early years has an impact on one's sense of self (Silvern et al., 1995). As noted earlier, exposure to childhood trauma has been linked to various psychopathologies and poor outcomes later in life. Many studies have evaluated the relationship between exposure to childhood trauma and self-esteem retrospectively (Kuo et al., 2012; Luszczynska et al., 2009). Some studies have explored self-concept as a moderator between trauma exposure and mental health outcomes, where self-concept has been found to significantly moderate the relationship between trauma

exposure and PTSD (Salami, 2010). Cognitive theories of PTSD that trauma-related appraisals play a major role in the emergence of this disorder (Ehlers & Clark, 2000); a number of papers suggest that when appraisal relate to the self this effect is particularly strong in adults (Gomez de la Cuesta et al., 2019). Pacheco's (2014) systematic review investigated the effect of child maltreatment on school performance, peer relationships, social competence, and self-esteem in both adults and children and found that exposure to trauma increased difficulties in all of those areas. However, to the authors' knowledge, there is no published meta-analysis that specifically explores the size of the relationship between exposure to trauma and self-concept in children and adolescents. Given previous research that has suggested that the effect of trauma exposure on well-being is larger for women than for men and is larger with increased trauma exposure and different types of trauma exposure (Gallo et al., 2018; Humphreys et al., 2020), it is important to study these potentially moderating effects in children and adolescents. Other potential moderators also warrant attention. Exposure to traumatic events is experienced by children worldwide and further understanding of the extent to which country status may also moderate this relationship is important to explore. Some theorists have suggested that the processing of traumatic experiences is shaped by cultural factors, e.g., in more collectivist cultures self-concept is based less on autonomy and uniqueness (Jobson et al., 2014). The age at which children and adolescents experience traumatic events may also be pertinent, as multiple cognitive developmental processes may shape how traumatic experiences are experienced and stored in autobiographical memory (Salmon & Bryant, 2002).

## Aim of Meta-analysis

Therefore, the aim of the current review was to systemically examine and meta-analyze studies to explore the relationship between exposure to traumatic events and maltreatment and its association with self-concept in children and adolescents. For this review, we used the DSM-5 PTSD (APA, 2013) definition of a traumatic event (i.e., an event that involved "actual or threatened death, serious injury, or sexual violence") and considered maltreatment to be any form of sexual abuse, physical abuse, emotional abuse, or neglect. We considered peer victimization to be a form of traumatic event (given the physical threat involved).

The main research questions are as follows:

- i. What is the size of the effect of the relationship between negative self-concept and exposure to trauma and maltreatment in children and adolescents?

- ii. What factors moderate this relationship specifically?

## Methods

### Registration

The current meta-analysis was prospectively registered with PROSPERO on October 12th, 2020 (CRD42020200148). No similar research protocols were identified through PROSPERO and to the authors' knowledge no previous meta-analysis was published on this topic. The PROSPERO protocol included an additional research question looking at the relationship between exposure to traumatic events and mental health in only trauma-exposed children and adolescents. The current review solely focuses on question one due to the large amount of studies included in the final review; the second question will be explored separately.

### Selection of Studies

Studies were selected following a systematic search for relevant publications from 1980 (when PTSD was first introduced in the DSM) in PubMed, PILOTS (International Literature on Traumatic Stress; US Department of Veterans Affairs, 2015), PsycINFO, and Web of Science to the 31st of October 2020, when the search was completed; searches were then updated on the September 18th, 2023. The following search terms were used in the study to answer the research questions: adolescent\* OR child\* OR teen\* AND "physical abuse" OR "sexual abuse" OR neglect OR "emotional abuse" OR maltreatment\* OR trauma AND "self esteem" OR "self-concept" OR "sense of self" OR "self perception" OR "self worth."

### Inclusion and Exclusion Criteria

To be included in the analysis, studies were required to meet all the following inclusion criteria: participants mean age was less than 18 years old; the study included a measure of trauma exposure or there was a defined trauma-exposed group and non-exposed group; and outcomes were reported on a validated measure of self-concept. For the purpose of this study, exposure to a traumatic event was defined using DSM-5 (APA, 2013) criteria, while maltreatment was considered to mean exposure to any form of sexual abuse, physical abuse, emotional abuse, or neglect. Studies were excluded if they only provided qualitative data on self-concept, if they were not in English, or if the mean age was above 18 years old. We also excluded studies for the following reasons which were determined after the review was registered on PROSPERO: those that included orphan status, if participants came from a sample which was selected for

having a mental health difficulty, was an at-risk sample or had a substance abuse problem, or if the self-concept measure used did not measure self-worth. These were not planned exclusion criteria but when screening studies it was decided to exclude these post hoc.

### Screening Method

The process for selection of peer-reviewed articles were conducted according to the Preferred Reporting Items of Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher et al., 2009) and is outlined in the PRISMA diagram in Fig. 1.

### Data Extraction

A stepwise approach was used to identify the studies that met inclusion criteria. Duplicate records were identified and removed by the first author. Titles and abstracts identified in the search were initially screened using the above inclusion and exclusion criteria. This was done to exclude articles that were not relevant to the question. Titles and abstracts of the excluded articles were reviewed to ensure these were appropriately excluded. Full texts were screened by two independent researchers. This was done systematically where questions and difference in scores were discussed until consensus was reached.

A data extraction spreadsheet was used to collate the following information from each study: type of study design, total number of participants, mean age of study participants, type of trauma exposure, participant characteristics (e.g., gender, age, and socioeconomic status), information on the measures used, mean scores and standard deviations on measures, and/or relevant statistics reported on the relationship between the variables of interest. Data were extracted by one author and checked by another author.

### Quality Assessment

Quality assessment was rated using an adapted version of the STROBE Statement: Checklist of items that should be included in reports of cross-sectional studies (Von Elm et al., 2014) to fit the research question (see Supplementary Material 1). Each study could be awarded a maximum of 14 points. Studies that had less than four points were labeled as "low quality," studies that had between four and nine points were labeled as "medium quality," and studies that had over nine points were labeled as "high quality." Quality ratings for each study are reported in Supplementary Material 2. The first author rated each of the studies and an independent rater assessed 43% of studies. Inter-rater reliability was assessed using Single Score Intraclass Correlation Coefficients and 95% intervals. There was moderate moderator

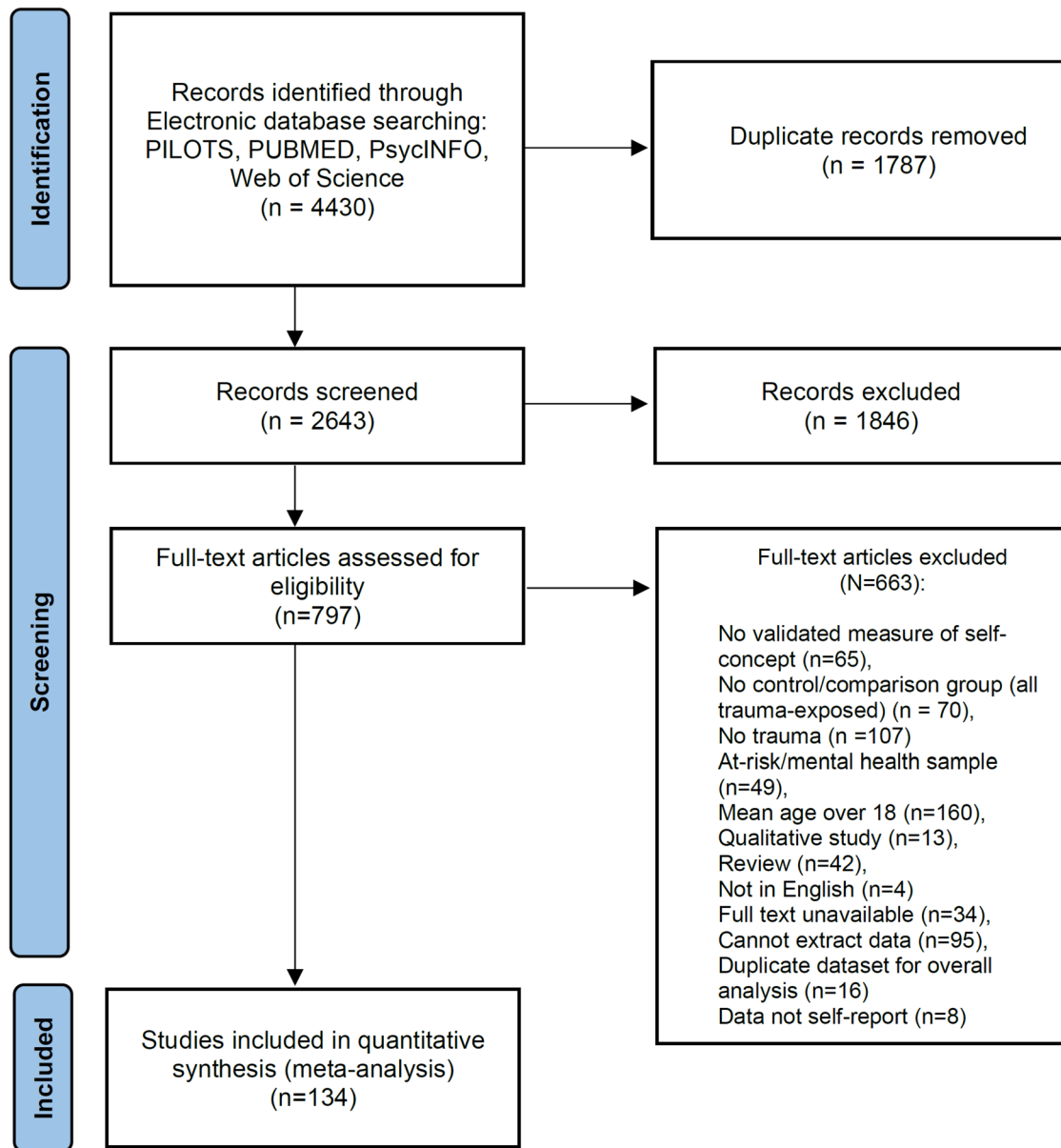


Fig. 1 PRISMA diagram of screening methods

agreement (McHugh, 2012) between the raters (ICC = 0.71, 95% CI 0.56, 0.81).

### Data Synthesis

A random-effects meta-analysis was conducted using metafor in R (Viechtbauer, 2010). Pearson's correlation coefficient  $r$  was used as the effect size of interest for the current meta-analysis as it is most easily interpretable (Field, 2001). This correlation was the most common statistic reported across the various studies. Studies that reported other statistics such as  $p$ -values and  $t$  tests could be converted to an ' $r$ ' effect size. Correlation coefficients

were pooled where there were multiple outcomes for each study. The 95% confidence intervals (CI) for each outcome were used to demonstrate the certainty of results. Effect sizes were combined using Fisher's  $Z$  transformation; this method used a weighted average to take into account differing sample sizes (Borenstein et al., 2009). The presence of heterogeneity was determined using Cochran's  $Q$ ; the  $I^2$  statistic (i.e., the percentage of variation across studies that is due to heterogeneity rather than chance; Higgins & Thompson, 2002) was also reported, and prediction intervals were calculated to indicate the expected range of true effects in future similar studies (IntHout et al., 2016).

## Moderator Analysis

It was decided when planning the review that moderator analyses would be undertaken if ten studies or more were identified in order to examine possible sources of heterogeneity. Variables were identified a priori to examine as study-level moderator variables. The metafor package uses mixed-effects meta-regression models to evaluate the role of moderator variables, where a moderation effect is observed if an omnibus test is significant; p-values for these tests are reported in the Results.

Several moderator analyses were conducted to address theoretical questions: whether the type of trauma was sexual abuse only or any other mix or type of trauma; frequency of trauma exposure (i.e., single-event versus multiple or repeated trauma exposure); country status (as defined by the World Health Organization, i.e., low- or middle-income country vs high-income country); the gender of participants in each study (> 50% female vs other; 100% female vs other); and the age of the sample (mean  $\geq$  16.0 years vs < 16 years; this cut-off was selected so that we could examine whether removing the older samples, whose age range was more likely to go above 18 and may therefore have included some young adults, had any effect on the pattern of results obtained). The moderator analysis for single vs multiple/repeated trauma exposure was repeated but restricted to case-control studies to ensure a greater accuracy of trauma exposure characteristics. Other moderator analyses were conducted to consider whether methodological aspects of the included studies influenced the results: whether self-concept was measured using the Rosenberg Self-Esteem Scale (RSES, 1965), the most commonly used measure of self-concept (vs any other valid measure of self-concept); study design type (case-control studies, where there was a clear trauma-exposed group and a control or comparison group, vs cross-sectional studies); and study quality (high-quality vs low/medium-quality studies).

We were not able to conduct all our planned moderator analyses. Not all studies provided consistent data on socioeconomic status and age at trauma exposure. Additionally, there was considerable variation in how trauma exposure was measured between the studies. Due to these large discrepancies in moderator variables, we decided to not analyze socioeconomic status, age at trauma exposure, and measurement of trauma exposure.

## Publication Bias

Publication bias refers to the relationship between the choice to publish a paper and the results (Begg, 1994), which can lead to biased results. To evaluate publication bias, an inspection of the funnel plots and their statistical asymmetry tests were calculated. The funnel plots were used

to graphically explore publication bias and the following tests were used to evaluate this statistically: Egger's test of intercept (Egger et al., 1997) and the trim-and-fill procedure (Duval & Tweedie, 2000).

## Results

### Search Results

Overall, 4430 studies were identified through our searches and 134 met inclusion criteria (see Fig. 1). Reasons for inclusion and exclusion for full-text studies reviewed are provided in Fig. 1.

### Study Characteristics

Ninety-five studies were included in the final review which yielded a total of 134 independent effect sizes. The total sample size was 255,334 participants with sample sizes from individual studies ranging from 14 to 81,247 participants. Characteristics of the studies included in the meta-analysis (sample size, mean age, percent female, type of study, country, type of trauma exposure, single or repeated trauma, and measure of trauma exposure and measure of self-concept) are included in Supplementary Material 3. The mean age of the included studies (where mean age was reported and weighted by sample size) was 14.8.

### Meta-analysis of All Data

A random-effects meta-analysis of 134 independent effect sizes from 134 studies indicated a small effect size for the relationship between trauma exposure and self-concept, ( $r = -0.20$ , 95% CI  $-0.22$ ,  $-0.18$ ). There was significant heterogeneity ( $Q = 3887.5$ ,  $p < 0.001$ ,  $I^2 = 96\%$ ); the 95% prediction interval crossed the line of no effect ( $-0.42$ ,  $0.05$ ) suggesting that future studies could conceivably show no effect. Effect sizes for each individual study are reported in Supplementary Material 4.

### Moderator Analysis

There were enough studies (more than 10) to conduct moderator analysis. Table 1 shows the results of all the moderator analyses. This includes correlation coefficients, 95% confidence intervals, 95% prediction intervals, Cochran's  $Q$ ,  $I^2$  values, and the omnibus p-value for the significance of the moderation test (meta-regression). Four significant moderating effects were found for the relationship between trauma exposure and negative self-concept. A significantly stronger effect size was found for studies looking at only sexual abuse ( $r = -0.24$ ,  $k = 36$ )

**Table 1** Results of regression analysis for relationship between trauma exposure and self-concept (including moderators)

	k	N	r	CI	PI	Q	I <sup>2</sup>	Moderator omnibus test p-value
<i>Overall</i>	134	255,334	-0.20	-0.22, -0.18	-0.42, 0.05	3887.5***	96%	
<i>Trauma type</i>								0.04*
CSA	36	47,049	-0.24	-0.28, -0.20	-0.44, -0.02	1384.7***	93%	
Mixed	98	208,285	-0.18	-0.21, -0.16	-0.41, 0.06	1813.2***	97%	
<i>Measure type</i>								0.90
RSES	67	209,788	-0.20	-0.23, -0.17	-0.44, 0.07	3389.0***	98%	
Non-RSES	67	45,546	-0.19	-0.22, -0.16	-0.38, 0.01	417.1***	88%	
<i>Type of trauma</i>								0.05*
Single	5	8337	-0.08	-0.19, -0.02	-0.32, 0.16	57.7***	93%	
Multiple/repeated	129	246,997	-0.20	-0.22, -0.18	-0.42, 0.04	3803.1***	96%	
<i>Type of trauma (CC)</i>								0.04*
Single	4	7,940	-0.10	-0.24, 0.05	-0.38, 0.21	54.9***	95%	
Multiple/repeated	45	16,997	-0.21	-0.25, -0.18	-0.40, -0.01	205.1***	79%	
<i>Type of study</i>								0.68
Case-Control	49	24,937	-0.20	-0.24, -0.17	-0.40, 0.02	273.7***	86%	
Cross-sectional	85	230,397	-0.19	-0.22, -0.17	-0.43, 0.06	3605.7***	98%	
<i>Country status</i>								0.22
LMIC	36	58,274	-0.22	-0.26, -0.18	-0.45, 0.04	780.8***	96%	
High income	98	197,060	-0.19	-0.21, -0.16	-0.41, 0.05	3102.3***	96%	
<i>Gender</i>								0.96
50% female	85	152,876	-0.20	-0.22, -0.17	-0.40, 0.02	828.3***	94%	
Mix	42	88,688	-0.20	-0.24, -0.16	-0.45, 0.08	2582.3***	98%	
<i>Gender</i>								0.39
100% female	22	6892	-0.22	-0.27, -0.16	-0.41, -0.01	88.9***	75%	
Mix	105	235,093	-0.19	-0.22, -0.17	-0.42, 0.06	3769.9***	97%	
<i>Age</i>								0.83
Up to 16 years	87	109,051	-0.20	-0.23, -0.17	-0.42, 0.05	2781.7***	95%	
16 years or greater	23	33,848	-0.19	-0.25, -0.13	-0.44, 0.08	399.9***	96%	
<i>Quality of studies</i>								0.29
High	76	209,264	-0.21	-0.24, -0.18	-0.44, 0.05	3422.0***	98%	
Medium or low	58	46,070	-0.18	-0.21, -0.15	-0.38, 0.04	355.5***	90%	

Note CC=case-control studies only; CI=confidence interval; CSA=childhood sexual abuse; k=number of effect sizes; LMIC: Low- and middle-income countries; N=number of participants; PI=prediction interval; r=Pearson's r correlation coefficient, pooled estimate. \*p<0.05; \*\*\*p<0.001

compared to any other trauma exposure type ( $r = -0.18$ ,  $k = 98$ ). Forest plots for each of these sub-groups are presented in Supplementary Material 5 and 6. A significantly stronger effect size was found for studies looking at multiple or repeated trauma exposure ( $r = -0.20$ ,  $k = 129$ ) compared to single-event trauma exposure ( $r = -0.08$ ,  $k = 5$ ). When limiting to only case-control studies, this significantly stronger effect size for multiple or repeated trauma exposure ( $r = -0.21$ ,  $k = 45$ ) compared to single-event trauma exposure [ $(r = -0.10$ ,  $k = 4)$  was maintained. No significant moderator effect was found for the relationship between trauma exposure and negative self-concept for study design (i.e., case-control vs cross-sectional),

country status (i.e., high-income country vs low- and middle-income countries), gender, self-concept measure used, or mean age over 16 years old. A further analysis considered whether sample mean age (where reported;  $k = 95$ ) moderated the relationship between self-concept and trauma exposure; this was not significant ( $p = 0.66$ ). Additionally, there was no significant moderating effect between low- and medium-quality studies compared to high-quality studies.

All sub-groups were characterized by significant heterogeneity. Moreover, the 95% prediction intervals for each subgroup crossed the line of no effect, with the exception of the studies that focused on children exposed to sexual abuse,



studies that used a case–control design comprised participants exposed to multiple or repeated trauma, and studies that entirely comprised female participants.

### Publication Bias

Publication bias analyses yielded a mixed picture. While visual inspection of the funnel plot was suggestive of asymmetry (aside from one outlier; see Supplementary Material 7), the Egger's test of funnel plot asymmetry suggested significant asymmetry ( $z = -2.13$ ,  $p = 0.033$ ). The trim-and-fill procedure did not suggest that there were missing studies.

### Discussion

The current meta-analysis explored the relationship between trauma exposure and self-concept in children and adolescents. To the authors' knowledge, this is the largest and only study to meta-analyze this relationship in children and adolescents. Results from pooling 134 independent effect sizes from the same number of studies found a significant negative effect of the relationship between trauma exposure and self-concept; this size of the effect was found to be small ( $r = -0.20$ ) and in the expected direction, i.e., greater trauma exposure was associated with poorer self-concept.

Further analyses were undertaken to understand what study-level characteristics may be moderating this relationship. Analysis of moderators found that two study-level factors moderated this relationship: trauma exposure frequency (single vs repeated) and sexual abuse (vs other types of abuse). The size of the effect was larger for studies that looked at multiple and repeated trauma exposure compared to single-event trauma exposure (e.g., earthquakes); this effect remained even when limiting study designs to case–control studies. This is in line with findings in the adult literature that indicate that increased exposure to trauma is related to poorer outcomes (Sowder et al., 2018). However, it is important to note that there were only five single incident trauma exposure studies in the review.

It is also noteworthy that the relationship between trauma exposure and self-concept was moderated by studies that only looked at child sexual abuse compared to any other mix of trauma exposure. These results suggest that it is not only the amount of exposure to the trauma, but the nature of the trauma exposure that has a relationship with one's self-concept; this is supported by findings in the adult literature that state that child sexual abuse is linked to worse outcomes later in life, relative to other trauma exposure types (Mangli, 2009).

That no other study-level characteristics moderated the relationship between trauma exposure and negative self-concept also warrants comment. While females are more

likely to be exposed to trauma and maltreatment (Gallo et al., 2018; Gwadz et al., 2007; Halpern et al., 2018) and previous research has found that females are more likely to experience negative outcomes following trauma exposure when compared to males (Holbrook et al., 2002), in the current meta-analysis, gender (whether 100% female or 50% female compared to a mix) did not moderate the relationship. This suggests that girls are no more likely than boys to have a worse impact on self-concept after exposure to trauma or vice versa. The relationship between trauma exposure and self-concept was found to be present in both low- and middle-income countries (LMICs) and high-income countries, stressing the global importance of this mechanism.

Finally, another important finding was that, while the Rosenberg Self-Esteem Scale (1965) has been most commonly used to measure self-concept, there was no moderating effect between using this measure compared to any other measure of self-concept. A final finding was that study quality did not affect the pattern of results; the difference between high versus low- and medium-quality studies did not change the size of the effect. This is an important finding as it suggests that regardless of study quality, the relationship between trauma exposure and negative self-concept is robust.

It is also important to note the issue of publication bias in the current sample. The two tests for publication bias show differing results which suggests there may be a possibility of publication bias affecting the results, particularly with a lack of studies in the positive direction. However, given the large sample size and the number of large studies in the analysis, publication bias is unlikely to have a large effect on the results. Moreover, given the significant heterogeneity in the outcomes, the tests of asymmetry may not be the most appropriate way to interpret publication bias (Ioannidis & Trikalinos, 2007).

It is important to highlight the direction and scale of the effect. As the current review looked at the relationship between exposure to traumatic events and negative self-concept using correlations, it is not possible to show causation, e.g., that trauma exposure causes negative self-concept. While it may be plausible to suggest that increased trauma exposure may lead to negative self-concept, it is also possible that children and adolescents with lower self-concept may be more vulnerable to trauma exposure. The size of the relationship is another interesting finding; the magnitude of the relationship between trauma exposure and negative self-concept is relatively small. While this could be explained by the large number of studies included in the analysis and the large variation between them, this could also suggest that trauma exposure and maltreatment may not have as detrimental of a relationship to one's sense of self as one may expect. Nasvytiene et al. (2012) found that resilience could play

a role here; in their meta-analysis, they found that individual characteristics, such as positive self-esteem, contributed to resilience following maltreatment. It is also important to consider how the effect of this relationship may be dispersed. It is possible that for many children and adolescents there is no relationship between trauma exposure and negative self-concept. However, some children may get a larger impact and have a greater relationship between mental health difficulties and trauma exposure, consistent with some findings in adolescents (e.g., Salami, 2010) and the broader literature showing a strong relationship between self-related appraisals and PTSD severity in trauma-exposed adults (Gomez de la Cuesta et al., 2019). The current meta-analysis, however, does not capture this information and is not able to determine these nuances of the relationship between trauma exposure and negative self-concept.

## Limitations

The present study had some important limitations. It should be noted that the current findings found a large degree of heterogeneity in the main meta-analysis and moderator analyses. There are many factors which have likely contributed to this large heterogeneity: differing methodological procedures used, large differences in the number and experiences of participants in each study, and different measures used. Moderator analysis was performed to understand the source of the heterogeneity; however, this did not completely resolve this issue and therefore, it is still unclear what the precise causes for the heterogeneity is. The type of trauma exposure measure could have contributed to this but it was not possible to explore this in the current analysis.

A further limitation is the large degree of missing information in some of the studies pertaining to study characteristics; many studies did not report age at trauma exposure or details on sociodemographic factors which meant not all of the prospective moderators identified could be evaluated. Additionally, the coding of studies for the purpose of the moderator analyses as ‘repeated or multiple’ in terms of nature of trauma exposure is a potential limitation. In particular, there were inconsistencies among the studies in the reporting of trauma exposure. For example, some studies reported trauma as a continuous variable where the higher the number, the more exposure to trauma. In these cases, it was not possible to pick apart those individuals who had scores of “0” indicating no trauma exposure within the study and therefore the study as a whole was coded as “multiple or repeated trauma exposure.” To account for these inconsistencies a further moderator analysis was conducted limiting the analysis to only case-control studies.

## Clinical Implications and Future Research

Despite these limitations, the current meta-analysis has important implications for practice. The significant but small effect found between trauma exposure and negative self-concept in children and adolescents provides an understanding into the potential role that self-concept may play. Given the significant main effect and the finding that the nature, exposure, or frequency of trauma can moderate this relationship, early identification of those who are at an increased risk of exposure to trauma and maltreatment is important. Given the mediating role that self-concept has on future psychopathology (Ehlers & Clark, 2000; Gomez de la Cuesta et al., 2019; Salami, 2010), it is imperative to understand the role that being exposed to trauma may have on the self-concept of children and adolescents.

These findings additionally highlight how self-concept may be an important mechanism to consider after exposure to a traumatic event(s), especially considering its mediating relationship and link to further mental health difficulties (Evans et al., 2015). This highlights a need to provide tools and interventions to directly target negative self-concept as a means to potentially help with other post-trauma reactions. These can include resources such as access to psychological therapies, such as Trauma-Focused Cognitive-Behavioral Therapy (Cohen et al., 2016), and psychoeducational resources, as well as more cost-effective tools to take into consideration both cultural factors and the nature of the trauma exposure.

The current meta-analysis highlighted a lack of studies measuring single-event trauma exposure. To gain a more in depth and accurate understanding of the effect of self-concept with single-event trauma exposure, more studies are needed in children and adolescents to evaluate this relationship. Given the scope of the current review, studies were not restricted based on age at trauma exposure. A further meta-analysis looking at trauma exposure and self-concept with a focus on age at trauma exposure may help reveal further nuances of this relationship.

The finding that sexual abuse in childhood and multiple/repeated trauma yielded a statistically strong effect is broadly consistent with ICD-11’s (WHO, 2018) definition of trauma exposure for the diagnosis of Complex PTSD. However, these stronger effects were not very large which suggests that it may be that a broader range of trauma exposure, not just trauma exposure that is severe and recurrent, that has a significant impact on self-concept. This gives important clinical implications for the importance of focusing on the impact of the trauma exposure for the individual rather than just those who experienced more severe and recurrent forms of trauma exposure.



## Conclusion

In summary, the current meta-analysis found a significant relationship between trauma exposure and self-concept in children and adolescents under 18 years old, where increased trauma exposure was related to negative or lower self-concept. This relationship was moderated by type of trauma exposure (sexual abuse or any mixed trauma) and whether this was single-event trauma exposure or a multiple and repeated trauma exposure. However, there was heterogeneity in the results with a mixed picture of publication bias. Overall, while it is not plausible to suggest causation from these results, the findings highlight a need to focus on all types of trauma exposure and provide resources and interventions to help improve the self-concept of those exposed or at risk to trauma exposure and maltreatment.

**Supplementary Information** The online version contains supplementary material available at <https://doi.org/10.1007/s10567-024-00472-9>.

## Declarations

**Disclosures** The authors report there are no competing interests to declare.

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## References

- \* Ackard, D. M., & Neumark-Sztainer, D. (2002). Date violence and date rape among adolescents: Associations with disordered eating behaviors and psychological health. *Child Abuse & Neglect*, 26(5), 455–473. [https://doi.org/10.1016/S0145-2134\(02\)00322-8](https://doi.org/10.1016/S0145-2134(02)00322-8)
- Afari, N., Ahumada, S. M., Wright, L. J., Mostoufi, S., Golnari, G., Reis, V., & Cuneo, J. G. (2014). Psychological trauma and functional somatic syndromes: A systematic review and meta-analysis. *Psychosomatic Medicine*, 76(1), 2. <https://doi.org/10.1097/PSY.0000000000000010>
- Alicic, E., Zalta, A. K., Van Wesel, F., Larsen, S. E., Hafstad, G. S., Hassanpour, K., & Smid, G. E. (2014). Rates of post-traumatic stress disorder in trauma-exposed children and adolescents: Meta-analysis. *The British Journal of Psychiatry*, 204(5), 335–340. <https://doi.org/10.1192/bjpp.bp.113.131227>
- \* Aloba, O., Opakunle, T., & Ogunrinu, O. (2020). Childhood Trauma Questionnaire-Short Form (CTQ-SF): Dimensionality, validity, reliability and gender invariance among Nigerian adolescents. *Child Abuse & Neglect*, 101, 104357. <https://doi.org/10.1016/j.chiabu.2020.104357>
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (DSM-5®)*. American Psychiatric Publication.
- \* Arslan, G. (2016). Psychological maltreatment, emotional and behavioral problems in adolescents: The mediating role of resilience and self-esteem. *Child Abuse & Neglect*, 52, 200–209. <https://doi.org/10.1016/j.chiabu.2015.09.010>
- \* Asgeirsdottir, B. B., Gudjonsson, G. H., Sigurdsson, J. F., & Sigfusdottir, I. D. (2010). Protective processes for depressed mood and anger among sexually abused adolescents: The importance of self-esteem. *Personality and Individual Differences*, 49(5), 402–407. <https://doi.org/10.1016/j.paid.2010.04.007>
- \* Ayhan, A. B., & Beyazit, U. (2021). The associations between loneliness and self-esteem in children and neglectful behaviors of their parents. *Child Indicators Research*, 14(5), 1863–1879. <https://doi.org/10.1007/s12187-021-09818-z>
- \* Baeg, S., Lee, B., & Park, H. J. (2020). The effect of supervisory neglect on adolescent peer victimization: Mediating role of self-esteem and internalizing problems. *Children and Youth Services Review*, 111, 104839. <https://doi.org/10.1016/j.childyouth.2020.104839>
- \* Bagley, C. (1992). Development of an adolescent stress scale for use by school counsellors: Construct validity in terms of depression, self-esteem and suicidal ideation. *School Psychology International*, 13(1), 31–49.
- \* Bailey, J. A., & McCloskey, L. A. (2005). Pathways to adolescent substance use among sexually abused girls. *Journal of Abnormal Child Psychology*, 33(1), 39–53.
- Begg, C. B. (1994). Publication bias. *The Handbook of Research Synthesis*, 25, 299–409.
- \* Bernard-Bonnin, A. C., Hébert, M., Daignault, I. V., & Allard-Dansereau, C. (2008). Disclosure of sexual abuse, and personal and familial factors as predictors of post-traumatic stress disorder symptoms in school-aged girls. *Paediatrics & Child Health*, 13(6), 479–486. <https://doi.org/10.1093/pch/13.6.479>
- \* Bolger, K. E., Patterson, C. J., & Kupersmidt, J. B. (1998). Peer relationships and self-esteem among children who have been maltreated. *Child Development*, 69(4), 1171–1197. <https://doi.org/10.1111/j.1467-8624.1998.tb06166.x>
- Borenstein, M., Cooper, H., Hedges, L., & Valentine, J. (2009). Effect sizes for continuous data. *The Handbook of Research Synthesis and Meta-Analysis*, 2, 221–235.
- \* Brown, M. R., Agyapong, V., Greenshaw, A. J., Cribben, I., Brett-MacLean, P., Drolet, J., McDonald-Harker, C., Omeje, J., Mankowski, M., Noble, S., Kitching, D., & Silverstone, P. H. (2019). After the Fort McMurray wildfire there are significant increases in mental health symptoms in grade 7–12 students compared to controls. *BMC Psychiatry*, 19(1), 1–11. <https://doi.org/10.1186/s12888-018-2007-1>
- \* Burack, J. A., Flanagan, T., Peled, T., Sutton, H. M., Zygmuntowicz, C., & Manly, J. T. (2006). Social perspective-taking skills in maltreated children and adolescents. *Developmental Psychology*, 42(2), 207. <https://doi.org/10.1037/0012-1649.42.2.207>
- Burnett, P. C. (1994). Self-concept and self-esteem in elementary school children. *Psychology in the Schools*, 31(2), 164–171. <https://doi.org/10.1002/1520-6807>
- \* Cecil, H., & Matson, S. C. (2001). Psychological functioning and family discord among African-American adolescent females with and without a history of childhood sexual abuse. *Child Abuse & Neglect*, 25(7), 973–988. [https://doi.org/10.1016/S0145-2134\(01\)00250-2](https://doi.org/10.1016/S0145-2134(01)00250-2)
- \* Cederbaum, J. A., Negriff, S., & Palmer Molina, A. (2020). Child maltreatment and romantic relationships in adolescence and young adulthood: The mediating role of self-perception. *Child*

- Abuse & Neglect*, 109, 104718. <https://doi.org/10.1016/j.chiabu.2020.104718>
- \* Chang, K. B., Jurecska, D. E., Lee-Zorn, C. E., & Merrick, J. (2012). If I value myself, I value school: The protective effect of self-esteem among abused females. *International Journal of Adolescent Medicine and Health*, 24(4), 349–353.
- \* Chen, C., Ji, S., & Jiang, J. (2022a). Psychological abuse and social support in Chinese adolescents: the mediating effect of self-esteem. *Frontiers in Psychology*, 13, 852256. <https://doi.org/10.3389/fpsyg.2022.852256>
- \* Chen, S. S., He, Y., Xie, G. D., Chen, L. R., Zhang, T. T., Yuan, M. Y., & Su, P. Y. (2022b). Relationships among adverse childhood experience patterns, psychological resilience, self-esteem and depressive symptoms in Chinese adolescents: A serial multiple mediation model. *Preventive Medicine*, 154, 106902. <https://doi.org/10.1016/j.ypmed.2021.106902>
- \* Chen, C., & Qin, J. (2020). Emotional abuse and adolescents' social anxiety: The roles of self-esteem and loneliness. *Journal of Family Violence*, 35(5), 497–507.
- \* Choi, K. S., Englander, E., Woo, Y., Choi, J., Kim, J. E., & Kim, H. (2016). A comparison of attributions, self-esteem, anxiety, and parental attachment in sexually abused and non-abused Korean children. *Journal of Child Custody*, 13(2–3), 219–239. <https://doi.org/10.1080/15379418.2016.1164650>
- Danese, A., & Tan, M. (2014). Childhood maltreatment and obesity: Systematic review and meta-analysis. *Molecular Psychiatry*, 19(5), 544–554. <https://doi.org/10.1038/mp.2013.54>
- \* Daniel, E., Andersen, J. P., & Papazoglou, K. (2016). Social identification and well-being following a terrorist attack: A longitudinal study of Israeli adolescents. *The Journal of Genetic Psychology*, 177(5), 172–184. <https://doi.org/10.1038/mp.2013.54>
- \* Deb, S., Ray, M., Bhattacharyya, B., & Sun, J. (2016). Violence against the adolescents of Kolkata: A study in relation to the socio-economic background and mental health. *Asian Journal of Psychiatry*, 19, 4–13. <https://doi.org/10.1016/j.ajp.2015.11.003>
- \* Dion, J., Hamel, C., Clermont, C., Blackburn, M. E., Hebert, M., Paquette, L., & Bergeron, S. (2022). Changes in Canadian adolescent well-being since the COVID-19 pandemic: The role of prior child maltreatment. *International Journal of Environmental Research and Public Health*. <https://doi.org/10.3390/ijerph191610172>
- \* Dion, J., Smith, K., Dufour, M. P., Paquette, L., Dubreuil, J., & Godbout, N. (2021). The mediating role of dispositional mindfulness in the associations between intimate violence, self-esteem, and distress among adolescents. *Mindfulness*, 12(12), 3060–3072. <https://doi.org/10.1007/s12671-021-01767-6>
- \* Doku, P. N., Ananga, M. K., Jehu-Appiah, N., Akohene, K. M., Debrah, T. P., & Nsatimba, F. (2023). Child maltreatment mediates the relationship between HIV/AIDS family dysfunction trajectories and psychosocial problems among adolescents. *PLOS Global Public Health*, 3(3), e0001599. <https://doi.org/10.1371/journal.pgph.0001599>
- Duval, S., & Tweedie, R. (2000). Trim and fill: A simple funnel-plot-based method of testing and adjusting for publication bias in meta-analysis. *Biometrics*, 56(2), 455–463. <https://doi.org/10.1111/j.0006-341X.2000.00455.x>
- \* Egan, S. K., & Perry, D. G. (1998). Does low self-regard invite victimization? *Developmental Psychology*, 34(2), 299. <https://doi.org/10.1037/0012-1649.34.2.299>
- Egger, M., Smith, G. D., Schneider, M., & Minder, C. (1997). Bias in meta-analysis detected by a simple, graphical test. *BMJ*, 315(7109), 629–634. <https://doi.org/10.1136/bmj.315.7109.629>
- Ehlers, A., & Clark, D. M. (2000). A cognitive model of posttraumatic stress disorder. *Behaviour Research and Therapy*, 38(4), 319–345. [https://doi.org/10.1016/S0005-7967\(99\)00123-0](https://doi.org/10.1016/S0005-7967(99)00123-0)
- \* Elliott, D. J., & Tarnowski, K. J. (1990). Depressive characteristics of sexually abused children. *Child Psychiatry and Human Development*, 21(1), 37–48.
- \* Esparza, D. V., & Esperat, M. C. R. (1996). The effects of childhood sexual abuse on minority adolescent mothers. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*, 25(4), 321–328. <https://doi.org/10.1111/j.1552-6909.1996.tb02578.x>
- \* Esparza-Del Villar, O. A., Chavez-Valdez, S. M., Montanez-Alvarado, P., Gutierrez-Vega, M., & Gutierrez-Rosado, T. (2022). Relationship between different types of violence and mental health in high school students from Northern Mexico. *Journal of Interpersonal Violence*, 37(17–18), 15774–15799. <https://doi.org/10.1177/08862605211021964>
- Evans, S. E., Davies, C., & DiLillo, D. (2008). Exposure to domestic violence: A meta-analysis of child and adolescent outcomes. *Aggression and Violent Behavior*, 13(2), 131–140. <https://doi.org/10.1016/j.avb.2008.02.005>
- Evans, G. J., Reid, G., Preston, P., Palmier-Claus, J., & Sellwood, W. (2015). Trauma and psychosis: The mediating role of self-concept clarity and dissociation. *Psychiatry Research*, 228(2), 626–632. <https://doi.org/10.1016/j.psychres.2015.04.053>
- Field, A. P. (2001). Meta-analysis of correlation coefficients: A Monte Carlo comparison of fixed-and random-effects methods. *Psychological Methods*, 6(2), 161. <https://doi.org/10.1037/1082-989X.6.2.161>
- \* Flynn, M., Cicchetti, D., & Rogosch, F. (2014). The prospective contribution of childhood maltreatment to low self-worth, low relationship quality, and symptomatology across adolescence: A developmental-organizational perspective. *Developmental Psychology*, 50(9), 2165. <https://doi.org/10.1037/a0037162>
- \* Folayan, M. O., Oginni, O., Arowolo, O., & El Tantawi, M. (2020). Internal consistency and correlation of the adverse childhood experiences, bully victimization, self-esteem, resilience, and social support scales in Nigerian children. *BMC Research Notes*, 13(1), 331. <https://doi.org/10.1186/s13104-020-05174-3>
- \* Freitas, D. F., Mendonca, M., Wolke, D., Marturano, E. M., Fontaine, A. M., & Coimbra, S. (2022). Resilience in the face of peer victimization and perceived discrimination: The role of individual and familial factors. *Child Abuse & Neglect*, 125, 105492. <https://doi.org/10.1016/j.chiabu.2022.105492>
- \* Fu, R., Huebner, E. S., & Tian, L. (2022). Profiles of family maltreatment and peer victimization: Associations with psychosocial adjustment in Chinese children. *Child Abuse & Neglect*, 133, 105851. <https://doi.org/10.1016/j.chiabu.2022.105851>
- Gallo, E. A. G., Munhoz, T. N., de Mola, C. L., & Murray, J. (2018). Gender differences in the effects of childhood maltreatment on adult depression and anxiety: A systematic review and meta-analysis. *Child Abuse & Neglect*, 79, 107–114. <https://doi.org/10.1016/j.chiabu.2018.01.003>
- Gardner, M. J., Thomas, H. J., & Erskine, H. E. (2019). The association between five forms of child maltreatment and depressive and anxiety disorders: A systematic review and meta-analysis. *Child Abuse & Neglect*, 96, 104082. <https://doi.org/10.1016/j.chiabu.2019.104082>
- \* Garduno, L. S. (2022). How influential are Adverse Childhood Experiences (ACEs) on Youths? Analyzing the immediate and lagged effect of ACEs on deviant behaviors. *Journal of Child and Adolescent Trauma*, 15(3), 683–700. <https://doi.org/10.1007/s40653-021-00423-4>
- \* Gauthier-Duchesne, A., Hebert, M., & Blais, M. (2022). Child sexual abuse, self-esteem, and delinquent behaviors during adolescence: The moderating role of gender. *Journal of Interpersonal Violence*, 37(15–16), 12725–12744. <https://doi.org/10.1177/08862605211001466>

- \* Genç, E., Durtschi, J. A., & Yile, S. (2018). *Moderating Factors Associated with Interrupting the Transmission of Domestic Violence*. <https://doi.org/10.1177/0886260518801018>
- \* German, D. N. E., Habenicht, D. J., & Fatcher, W. G. (1990). Psychological profile of the female adolescent incest victim. *Child Abuse & Neglect, 14*(3), 429–438. [https://doi.org/10.1016/0145-2134\(90\)90014-K](https://doi.org/10.1016/0145-2134(90)90014-K)
- \* Gesinde, A. M. (2011). The impact of seven dimensions of emotional maltreatment on self concept of school adolescents in Ota, Nigeria. *Procedia-Social and Behavioral Sciences, 30*, 2680–2686. <https://doi.org/10.1016/j.sbspro.2011.12.001>
- \* Gewirtz-Meydan, A. (2020). The relationship between child sexual abuse, self-concept and psychopathology: The moderating role of social support and perceived parental quality. *Children and Youth Services Review, 113*, 104938. <https://doi.org/10.1016/j.childyouth.2020.104938>
- Gómez de La Cuesta, G., Schweizer, S., Diehle, J., Young, J., & Meiser-Stedman, R. (2019). The relationship between maladaptive appraisals and posttraumatic stress disorder: A meta-analysis. *European Journal of Psychotraumatology, 10*(1), 1620084. <https://doi.org/10.1080/20008198.2019.1620084>
- \* Grayston, A. D., De Luca, R. V., & Boyes, D. A. (1992). Self-esteem, anxiety, and loneliness in preadolescent girls who have experienced sexual abuse. *Child Psychiatry and Human Development, 22*(4), 277–286.
- \* Greger, H. K., Myhre, A. K., Lydersen, S., & Jozefiak, T. (2016). Child maltreatment and quality of life: A study of adolescents in residential care. *Health and Quality of Life Outcomes, 14*(1), 1–17. <https://doi.org/10.1186/s12955-016-0479-6>
- \* Greger, H. K., Myhre, A. K., Klöckner, C. A., & Jozefiak, T. (2017). Childhood maltreatment, psychopathology and well-being: The mediator role of global self-esteem, attachment difficulties and substance use. *Child Abuse & Neglect, 70*, 122–133. <https://doi.org/10.1016/j.chiabu.2017.06.012>
- \* AzaGunnaugsson, G., Kristjánsson, Á. L., Einarsdóttir, J., & Sigfúsdóttir, I. D. (2013). Corrigendum to “Intrafamilial conflict and emotional well-being: A population based study among Icelandic adolescents” [*Child Abuse Neglect, 35* (2011) 372–381]. *Child Abuse & Neglect, 4*(37), 282.
- Gwadz, M. V., Nish, D., Leonard, N. R., & Strauss, S. M. (2007). Gender differences in traumatic events and rates of post-traumatic stress disorder among homeless youth. *Journal of Adolescence, 30*(1), 117–129. <https://doi.org/10.1016/j.adolescence.2006.01.004>
- \* Haj-Yahia, M. M., Musleh, K., & Haj-Yahia, Y. M. (2002). The incidence of adolescent maltreatment in Arab society and some of its psychological effects. *Journal of Family Issues, 23*(8), 1032–1064. <https://doi.org/10.1177/019251302237302>
- Halpern, S. C., Schuch, F. B., Scherer, J. N., Sordi, A. O., Pachado, M., Dalbosco, C., Dalbosco, C., Fara, L., Pechanski, F., Kessler, F., & Von Diemen, L. (2018). Child maltreatment and illicit substance abuse: A systematic review and meta-analysis of longitudinal studies. *Child Abuse Review, 27*(5), 344–360. <https://doi.org/10.1002/car.2534>
- \* Herd, T., Haag, A. C., Selin, C., & Palmer, L. (2023). Individual and social risk and protective factors as predictors of trajectories of post-traumatic stress symptoms in adolescents. *Research in Child and Adolescent Psychopathology, 51*(12), 1739–1751. <https://doi.org/10.1007/s10802-022-00960-y>
- \* Hibbard, R. A., Brack, C. J., Rauch, S., & Orr, D. P. (1988). Abuse, feelings, and health behaviors in a student population. *American Journal of Diseases of Children, 142*(3), 326–330. <https://doi.org/10.1177/019251302237302>
- \* Hibbard, R. A., Spence, C., Tzeng, O. C., Zollinger, T., & Orr, D. P. (1992). Child abuse and mental health among adolescents in dependent care. *Journal of Adolescent Health, 13*(2), 121–127. [https://doi.org/10.1016/1054-139X\(92\)90078-P](https://doi.org/10.1016/1054-139X(92)90078-P)
- Higgins, J. P., & Thompson, S. G. (2002). Quantifying heterogeneity in a meta-analysis. *Statistics in Medicine, 21*(11), 1539–1558. <https://doi.org/10.1002/sim.1186>
- Hamilton, W. K. & Mizumoto, A. (2015). MAVIS: Meta Analysis Via Shiny
- Holbrook, T. L., Hoyt, D. B., Stein, M. B., & Sieber, W. J. (2002). Gender differences in long-term posttraumatic stress disorder outcomes after major trauma: Women are at higher risk of adverse outcomes than men. *Journal of Trauma and Acute Care Surgery, 53*(5), 882–888.
- Humphreys, K. L., LeMoult, J., Wear, J. G., Piersiak, H. A., Lee, A., & Gotlib, I. H. (2020). Child maltreatment and depression: A meta-analysis of studies using the Childhood Trauma Questionnaire. *Child Abuse & Neglect, 102*, 104361. <https://doi.org/10.1016/j.chiabu.2020.104361>
- IntHout, J., Ioannidis, J. P., Rovers, M. M., & Goeman, J. J. (2016). Plea for routinely presenting prediction intervals in meta-analysis. *British Medical Journal Open, 6*(7), e010247. <https://doi.org/10.1136/bmjopen-2015-010247>
- Ioannidis, J. P., & Trikalinos, T. A. (2007). The appropriateness of asymmetry tests for publication bias in meta-analyses: A large survey. *Canadian Medical Association Journal, 176*(8), 1091–1096. <https://doi.org/10.1503/cmaj.060410>
- \* Jankowiak, B., Jaskulska, S., Sanz-Barbero, B., Waszyńska, K., Claire, K. D., Bowes, N., & Vives-Cases, C. (2021). Will I like myself if you hurt me? Experiences of violence and adolescents’ self-esteem. *Sustainability, 13*(11), 11620. <https://doi.org/10.3390/su132111620>
- \* Jezl, D. R., Molidor, C. E., & Wright, T. L. (1996). Physical, sexual and psychological abuse in high school dating relationships: Prevalence rates and self-esteem issues. *Child and Adolescent Social Work Journal, 13*(1), 69–87.
- Jobson, L., Moradi, A. R., Rahimi-Movaghar, V., Conway, M. A., & Dalglish, T. (2014). Culture and the remembering of trauma. *Clinical Psychological Science, 2*(6), 696–713. <https://doi.org/10.1177/2167702614529763>
- \* Johnson, P. (2001). In their own voices: Report of a study on the later effects of child sexual abuse. *Journal of Sexual Aggression, 7*(2), 41–56. <https://doi.org/10.1080/13552600108416166>
- \* Jonsson, L. S., Fredlund, C., Priebe, G., Wadsby, M., & Svedin, C. G. (2019). Online sexual abuse of adolescents by a perpetrator met online: A cross-sectional study. *Child and Adolescent Psychiatry and Mental Health, 13*(1), 1–10.
- \* Ju, S., & Lee, Y. (2018). Developmental trajectories and longitudinal mediation effects of self-esteem, peer attachment, child maltreatment and depression on early adolescents. *Child Abuse & Neglect, 76*, 353–363. <https://doi.org/10.1080/13552600108416166>
- \* Kaufman, J., & Cicchetti, D. (1989). Effects of maltreatment on school-age children’s socioemotional development: Assessments in a day-camp setting. *Developmental Psychology, 25*(4), 516.
- \* Kim, J., & Cicchetti, D. (2004). A longitudinal study of child maltreatment, mother–child relationship quality and maladjustment: The role of self-esteem and social competence. *Journal of Abnormal Child Psychology, 32*(4), 341–354.
- \* Kim, J., & Cicchetti, D. (2006). Longitudinal trajectories of self-system processes and depressive symptoms among maltreated and nonmaltreated children. *Child Development, 77*(3), 624–639. <https://doi.org/10.1111/j.1467-8624.2006.00894.x>
- \* Kim, J. Y., Lee, J. S., & Oh, S. (2017). A path model of school violence perpetration: Introducing online game addiction as a new risk factor. *Journal of Interpersonal Violence, 32*(21), 3205–3225. <https://doi.org/10.1177/0886260515597435>



- \* Kim, S., & Lee, Y. (2020). Role of self-esteem and family-level social capital in the pathway from victimization to aggression. *Child Abuse & Neglect, 107*, 104620. <https://doi.org/10.1016/j.chiabu.2020.104620>
- \* Kim, S., & Lee, Y. (2021). Examining the profiles of school violence and their association with individual and relational covariates among South Korean children. *Child Abuse & Neglect, 118*, 105155. <https://doi.org/10.1016/j.chiabu.2021.105155>
- \* Kocturk, N., & Bilge, F. (2017). The irrational beliefs and the psychological symptoms of the sexual abuse victims. *The Journal of Psychiatry and Neurological Sciences, 30*, 113–123. <https://doi.org/10.5350/DAJPN2017300205>
- Krug, E. G., Mercy, J. A., Dahlberg, L. L., & Zwi, A. B. (2002). The world report on violence and health. *The Lancet, 360*(9339), 1083–1088. [https://doi.org/10.1016/S0140-6736\(02\)11133-0](https://doi.org/10.1016/S0140-6736(02)11133-0)
- Kuo, J. R., Goldin, P. R., Werner, K., Heimberg, R. G., & Gross, J. J. (2011). Childhood trauma and current psychological functioning in adults with social anxiety disorder. *Journal of Anxiety Disorders, 25*(4), 467–473. <https://doi.org/10.1016/j.janxdis.2010.11.011>
- \* Lam, K. Y. I. (2015). Disclosure and psychological well-being of sexually abused adolescents in Hong Kong. *Journal of Child Sexual Abuse, 24*(7), 731–752.
- \* Lau, J. T., Chan, K. K., Lam, P. K., Choi, P. Y., & Lai, K. Y. (2003). Psychological correlates of physical abuse in Hong Kong Chinese adolescents. *Child Abuse & Neglect, 27*(1), 63–75. <https://doi.org/10.1080/10538712.2015.1077364>
- Le, M. T., Holton, S., Nguyen, H. T., Wolfe, R., & Fisher, J. (2016). Victimization, poly-victimization and health-related quality of life among high school students in Vietnam: A cross-sectional survey. *Health and Quality of Life Outcomes, 14*(1), 1–17. <https://doi.org/10.1186/s12955-016-0558-8>
- Le, M. T., Holton, S., Romero, L., & Fisher, J. (2018). Polyvictimization among children and adolescents in low-and lower-middle-income countries: A systematic review and meta-analysis. *Trauma, Violence, & Abuse, 19*(3), 323–342. <https://doi.org/10.1177/1524838016659489>
- \* Lee, C. K., & Feng, J. Y. (2021). From childhood victimization to internalizing and externalizing behavior problems through self-esteem in adolescence. *Research in Nursing & Health, 44*(6), 931–944. <https://doi.org/10.1002/nur.22188>
- \* Leeson, F. J., & Nixon, R. D. (2011). The role of children's appraisals on adjustment following psychological maltreatment: A pilot study. *Journal of Abnormal Child Psychology, 39*(5), 759–771.
- \* Li, X., Barnett, D., Fang, X., Lin, X., Zhao, G., Zhao, J., Hong, Y., Zhang, L., Naar-King, S., & Stanton, B. (2009). Lifetime incidences of traumatic events and mental health among children affected by HIV/AIDS in rural China. *Journal of Clinical Child & Adolescent Psychology, 38*(5), 731–744. <https://doi.org/10.1080/15374410903103601>
- \* Li, W., Lai, W., Guo, L., Wang, W., Li, X., Zhu, L., & Lu, C. (2023). Childhood maltreatment and subsequent depressive symptoms: a prospective study of the sequential mediating role of self-esteem and internalizing/externalizing problems. *BMC Psychiatry, 23*(1), 179. <https://doi.org/10.1186/s12888-023-04654-7>
- \* Lim, Y., & Lee, O. (2017). Relationships between parental maltreatment and adolescents' school adjustment: Mediating roles of self-esteem and peer attachment. *Journal of Child and Family Studies, 26*(2), 393–404.
- \* Lim, Y. (2020). Self-esteem as a mediator in the longitudinal relationship between dysfunctional parenting and peer attachment in early adolescence. *Children and Youth Services Review, 105*. <https://doi.org/10.1016/j.childyouth.2020.105224>
- \* Lin, D., Li, X., Fan, X., & Fang, X. (2011). Child sexual abuse and its relationship with health risk behaviors among rural children and adolescents in Hunan, China. *Child Abuse & Neglect, 35*(9), 680–687. <https://doi.org/10.1016/j.chiabu.2011.05.006>
- \* Liu, F. S., Wang, N., Chui, H., Wang, X. H., & Chen, N. (2023). The association between left-behind children status and peer victimization: Self-esteem and perceived social support as potential moderators. *Journal of Aggression Maltreatment & Trauma, 28*(1), 1–12. <https://doi.org/10.1080/10926771.2023.2222663>
- \* Luo, S., Liu, Y., & Zhang, D. (2020). Psychological maltreatment and loneliness in Chinese children: The role of perceived social support and self-esteem. *Children and Youth Services Review, 108*, 104573. <https://doi.org/10.1016/j.childyouth.2019.104573>
- \* Lynch, M., & Cicchetti, D. (1998). An ecological-transactional analysis of children and contexts: The longitudinal interplay among child maltreatment, community violence, and children's symptomatology. *Development and Psychopathology, 10*(2), 235–257.
- Luszczynska, A., Benight, C. C., & Cieslak, R. (2009). Self-efficacy and health-related outcomes of collective trauma: A systematic review. *European Psychologist, 14*(1), 51–62. <https://doi.org/10.1027/1016-9040.14.1.51>
- \* Ma, E. Y., & Li, F. W. (2014). Developmental trauma and its correlates: A study of Chinese children with repeated familial physical and sexual abuse in Hong Kong. *Journal of Traumatic Stress, 27*(4), 454–460. <https://doi.org/10.1002/jts.21944>
- \* Malik, S., & Kaiser, A. (2016). Impact of emotional maltreatment on self esteem among adolescents. *The Journal of the Pakistan Medical Association, 66*(7), 795–798.
- Maniglio, R. (2009). The impact of child sexual abuse on health: A systematic review of reviews. *Clinical Psychology Review, 29*(7), 647–657.
- \* Mannarino, A. P., Cohen, J. A., & Gregor, M. (1989). Emotional and behavioral difficulties in sexually abused girls. *Journal of Interpersonal Violence, 4*(4), 437–451. <https://doi.org/10.1177/088626089004004004>
- \* Maruyama, J. M., Valente, J. Y., Tovo-Rodrigues, L., Santos, I. S., Barros, A. J. D., Munhoz, T. N., & Matijasevich, A. (2023). Maternal depression trajectories in childhood, subsequent maltreatment, and adolescent emotion regulation and self-esteem: the 2004 Pelotas birth cohort. *European Child and Adolescent Psychiatry, 32*(10), 1935–1945. <https://doi.org/10.1007/s00787-022-02022-6>
- \* Maskell, J., Newcombe, P., Martin, G., & Kimble, R. (2013). Psychosocial functioning differences in pediatric burn survivors compared with healthy norms. *Journal of Burn Care & Research, 34*(4), 465–476. <https://doi.org/10.1097/BCR.0b013e31827217a9>
- \* Matejcek, Z., & Kadubcova, B. (1983). Perceived parental acceptance-rejection and personality organization among Czech elementary school children. *Behavior Science Research, 18*(4), 259–268. <https://doi.org/10.1177/106939718301800401>
- McHugh, M. L. (2012). Interrater reliability: The kappa statistic. *Biochemia Medica, 22*(3), 276–282.
- \* Medora, N. P., Goldstein, A., & Von der Hellen, C. (1993). Variables related to romanticism and self-esteem in pregnant teenagers. *Adolescence, 28*(109), 159.
- \* Mennen, F. E. (1994). Sexual abuse in Latina girls: Their functioning and a comparison with White and African American girls. *Hispanic Journal of Behavioral Sciences, 16*(4), 475–486. <https://doi.org/10.1177/07399863940164006>
- \* Mennen, F. E., & Meadow, D. (1993). The relationship of sexual abuse to symptom levels in emotionally disturbed girls. *Child and Adolescent Social Work Journal, 10*(4), 319–328.
- \* Mennen, F. E., & Meadow, D. (1994). A preliminary study of the factors related to trauma in childhood sexual abuse. *Journal of Family Violence, 9*(2), 125–142.
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & Prisma Group. (2009). Preferred reporting items for systematic reviews and

- meta-analyses: the PRISMA statement. *PLoS Medicine*, 6(7), e1000097. <https://doi.org/10.1371/journal.pmed.1000097>
- \* Moyer, D. M., DiPietro, L., Berkowitz, R. I., & Stunkard, A. J. (1997). Childhood sexual abuse and precursors of binge eating in an adolescent female population. *International Journal of Eating Disorders*, 21(1), 23–30. [https://doi.org/10.1002/\(SICI\)1098-108X\(199701\)21:1%3c23::AID-EAT3%3e3.0.CO;2-5](https://doi.org/10.1002/(SICI)1098-108X(199701)21:1%3c23::AID-EAT3%3e3.0.CO;2-5)
- \* Mwakanyamale, A. A., & Yizhen, Y. (2019). Psychological maltreatment and its relationship with self-esteem and psychological stress among adolescents in Tanzania: A community based, cross-sectional study. *BMC Psychiatry*, 19(1), 1–9. <https://doi.org/10.1186/s12888-019-2139-y>
- Nasvytienė, D., Lazdauskas, T., & Leonavičienė, T. (2012). Child's resilience in face of maltreatment: A meta-analysis of empirical studies. *Psichologija*, 46, 7–26.
- Nelson, J., Klumpparent, A., Doebler, P., & Ehring, T. (2017). Childhood maltreatment and characteristics of adult depression: Meta-analysis. *The British Journal of Psychiatry*, 210(2), 96–104. <https://doi.org/10.1192/bjp.bp.115.180752>
- \* Nguyen, D. T., Wright, E. P., Dedding, C., Pham, T. T., & Bunders, J. (2019). Low self-esteem and its association with anxiety, depression, and suicidal ideation in Vietnamese secondary school students: A cross-sectional study. *Frontiers in Psychiatry*, 10, 698. <https://doi.org/10.3389/fpsy.2019.00698>
- \* Nguyen, H. T., Dunne, M. P., & Le, A. V. (2010). Multiple types of child maltreatment and adolescent mental health in Viet Nam. *Bulletin of the World Health Organization*, 88, 22–30.
- \* Oates, R. K., Forrest, D., & Peacock, A. (1985). Self-esteem of abused children. *Child Abuse & Neglect*, 9(2), 159–163. [https://doi.org/10.1016/0145-2134\(85\)90007-9](https://doi.org/10.1016/0145-2134(85)90007-9)
- \* Oates, R. K., O'Toole, B. I., Lynch, D. L., Stern, A., & Cooney, G. (1994). Stability and change in outcomes for sexually abused children. *Journal of the American Academy of Child & Adolescent Psychiatry*, 33(7), 945–953. <https://doi.org/10.1097/00004583-199409000-00003>
- \* O'keefe, M., & Treister, L. (1998). Victims of dating violence among high school students: Are the predictors different for males and females? *Violence against Women*, 4(2), 195–223. <https://doi.org/10.1097/00004583-199409000-00003>
- \* Orr, D. P., & Downes, M. C. (1985). Self-concept of adolescent sexual abuse victims. *Journal of Youth and Adolescence*, 14(5), 401–410.
- Pacheco, J. T. B., Irigaray, T. Q., Nunes, M. L. T., & Argimon, I. I. D. L. (2014). Childhood maltreatment and psychological adjustment: A systematic review. *Psicologia: Reflexão e Crítica*, 27(4), 815–824. <https://doi.org/10.1590/1678-7153.201427422>
- \* Pantelewicz, A., Krasuski, T., & Olczak-Kowalczyk, D. (2021). Assessment of psychological indicators of domestic violence against children and youth from the child's behavior in the dental office. *Family Medicine and Primary Care Review*, 23(1), 41–48. <https://doi.org/10.5114/fmpcr.2021.103156>
- \* Parent, S., Vaillancourt-Morel, M.-P., & Gillard, A. (2021). Interpersonal violence (IV) in sport and mental health outcomes in teenagers. *Journal of Sport and Social Issues*, 46(4), 323–337. <https://doi.org/10.1177/01937235211043652>
- \* Park, A., & Kim, Y. (2018). The longitudinal influence of child maltreatment on child obesity in South Korea: The mediating effects of low self-esteem and depressive symptoms. *Children and Youth Services Review*, 87, 34–40. <https://doi.org/10.1016/j.chilcyouth.2018.02.012>
- Peltonen, K., & Punamäki, R. L. (2010). Preventive interventions among children exposed to trauma of armed conflict: A literature review. *Aggressive Behavior: Official Journal of the International Society for Research on Aggression*, 36(2), 95–116. <https://doi.org/10.1002/ab.20334>
- Punamaki, R. L. (2008). *Posttraumatic stress disorder and symptoms among children in war: Determinants and treatment. PTSD among children in war*. Wiley.
- \* Rana, M., Gupta, M., Malhi, P., Grover, S., & Kaur, M. (2020). Prevalence and correlates of bullying perpetration and victimization among school-going adolescents in Chandigarh. *North India. Indian Journal of Psychiatry*, 62(5), 531–539. [https://doi.org/10.4103/psychiatry.IndianJPsychiatry\\_444\\_19](https://doi.org/10.4103/psychiatry.IndianJPsychiatry_444_19)
- \* Reid-Russell, A., Miller, A. B., Cvencek, D., Meltzoff, A. N., & McLaughlin, K. A. (2022). Lower implicit self-esteem as a pathway linking childhood abuse to depression and suicidal ideation. *Development and Psychopathology*, 34(4), 1272–1286. <https://doi.org/10.1017/S0954579420002217>
- \* Reyes, C. J. (2008). Exploring the relations among the nature of the abuse, perceived parental support, and child's self-concept and trauma symptoms among sexually abused children. *Journal of Child Sexual Abuse*, 17(1), 51–70. <https://doi.org/10.1080/10538710701884482>
- Romano, E., Babchishin, L., Marquis, R., & Fréchette, S. (2015). Childhood maltreatment and educational outcomes. *Trauma, Violence, & Abuse*, 16(4), 418–437. <https://doi.org/10.1177/1524838014537908>
- \* Ronzon-Tirado, R., Redondo, N., & Munoz-Rivas, M. J. (2022). Childhood maltreatment: The role of concurrent advantageous experiences on adolescents' psychosocial adjustment. *Aggressive Behavior*, 48(6), 595–607. <https://doi.org/10.1002/ab.22048>
- Rosenberg, M. (1965). Rosenberg self-esteem scale (RSE). *Acceptance and Commitment Therapy. Measures Package*, 61(52), 18.
- \* Rust, J. O., & Troupe, P. A. (1991). Relationships of treatment of child sexual abuse with school achievement and self-concept. *The Journal of Early Adolescence*, 11(4), 420–429. <https://doi.org/10.1177/0272431691114002>
- \* Ryu, S., & Gao, Z. (2023). The moderating effects of physical activity on the relationships between child maltreatment and health outcomes among Korean adolescents: A secondary analysis of the 2020 Korean Children and Youth Rights Survey. *Journal of Clinical Medicine*. <https://doi.org/10.3390/jcm12144574>
- \* Saigh, P. A., Yasik, A. E., Oberfield, R., & Halamandaris, P. V. (2008). The self-concept of traumatized children and adolescents with or without PTSD. *Behaviour Research and Therapy*, 46(10), 1181–1186. <https://doi.org/10.1016/j.brat.2008.05.003>
- Salami, S. O. (2010). Moderating effects of resilience, self-esteem and social support on adolescents' reactions to violence. *Asian Social Science*, 6(12), 101.
- \* Salazar, L. F., Wingood, G. M., DiClemente, R. J., Lang, D. L., & Harrington, K. (2004). The role of social support in the psychological well-being of African American girls who experience dating violence victimization. *Violence and Victims*, 19(2), 171–187. <https://doi.org/10.1891/vivi.19.2.171.64100>
- \* Sayar, K., Kose, S., Grabe, H. J., & Topbas, M. (2005). Alexithymia and dissociative tendencies in an adolescent sample from Eastern Turkey. *Psychiatry and Clinical Neurosciences*, 59(2), 127–134. <https://doi.org/10.1111/j.1440-1819.2005.01346.x>
- \* Scheer, J. R., Edwards, K. M., Sheinfel, A. Z., Dalton, M. R., Firkey, M. K., & Watson, R. J. (2022). Interpersonal victimization, substance use, and mental health among sexual and gender minority youth: the role of self-concept factors. *Journal of Interpersonal Violence*, 37(19–20), 18104–18129. <https://doi.org/10.1177/08862605211035868>
- \* Schlechter, P., Fritz, J., Cassels, M., Neufeld, S. A. S., & Wilkinson, P. O. (2021). The Youth and Childhood Adversity Scale: A step towards developing a new measure of adversity and its severity. *European Journal of Psychotraumatology*, 12(1), 1981573. <https://doi.org/10.1080/20008198.2021.1981573>



- \* Sciacca, B., Mazzone, A., Loftsson, M., O'Higgins Norman, J., & Foody, M. (2023). Nonconsensual dissemination of sexual images among adolescents: Associations with depression and self-esteem. *Journal of Interpersonal Violence*, 38(15–16), 9438–9464. <https://doi.org/10.1177/08862605231165777>
- \* Sevenoaks, T., Fouche, J. P., Phillips, N., Heany, S., Myer, L., Zar, H. J., & Hoare, J. (2022). Childhood trauma and mental health in the cape town adolescent antiretroviral cohort. *Journal of Child and Adolescent Trauma*, 15(2), 353–363. <https://doi.org/10.1007/s40653-021-00362-0>
- \* Shah, S. M., Nowshad, G., Dhaheri, F. A., Al-Shamsi, M. H., Al-Ketbi, A. M., Galadari, A., & Arnone, D. (2021). Child maltreatment and neglect in the United Arab Emirates and relationship with low self-esteem and symptoms of depression. *International Reviews in Psychiatry*, 33(3), 326–336. <https://doi.org/10.1080/09540261.2021.1895086>
- \* Shattnawi, K. K., Al Ali, N., & Ma'abreh, Y. M. (2022). Prevalence of adverse childhood experiences and their relationship with self-esteem among school-age children in Jordan. *Child Psychiatry and Human Development*. <https://doi.org/10.1007/s10578-022-01378-9>
- \* Shen, L., Zhang, Y., Liang, W., & Zhang, Y. (2015). Investigation of child maltreatment: Survey among junior school pupils in Henan province of China. *Asia-Pacific Psychiatry*, 7(1), 85–90. <https://doi.org/10.1111/appy.12105>
- Silvern, L., Karyl, J., Waelde, L., Hodges, W. F., Starek, J., Heidt, E., & Min, K. (1995). Retrospective reports of parental partner abuse: Relationships to depression, trauma symptoms and self-esteem among college students. *Journal of Family Violence*, 10(2), 177–202.
- \* Skeen, S., Macedo, A., Tomlinson, M., Hensels, I. S., & Sherr, L. (2016). Exposure to violence and psychological well-being over time in children affected by HIV/AIDS in South Africa and Malawi. *AIDS Care*, 28(sup1), 16–25. <https://doi.org/10.1080/09540121.2016.1146219>
- \* Smith, K., Cénat, J. M., Lapierre, A., Dion, J., Hébert, M., & Côté, K. (2018). Cyber dating violence: Prevalence and correlates among high school students from small urban areas in Quebec. *Journal of Affective Disorders*, 234, 220–223. <https://doi.org/10.1016/j.jad.2018.02.043>
- \* Soler, L., Paretilla, C., Kirchner, T., & Fornis, M. (2012). Effects of poly-victimization on self-esteem and post-traumatic stress symptoms in Spanish adolescents. *European Child & Adolescent Psychiatry*, 21(11), 645–653.
- Sowder, K. L., Knight, L. A., & Fishalow, J. (2018). Trauma exposure and health: A review of outcomes and pathways. *Journal of Aggression, Maltreatment & Trauma*, 27(10), 1041–1059. <https://doi.org/10.1080/10926771.2017.1422841>
- \* Stern, A. E., Lynch, D. L., Oates, R. K., O'Toole, B. I., & Cooney, G. (1995). Self esteem, depression, behaviour and family functioning in sexually abused children. *Journal of Child Psychology and Psychiatry*, 36(6), 1077–1089. <https://doi.org/10.1111/j.1469-7610.1995.tb01352.x>
- Stoltenborgh, M., Van Ijzendoorn, M. H., Euser, E. M., & Bakermans-Kranenburg, M. J. (2011). A global perspective on child sexual abuse: Meta-analysis of prevalence around the world. *Child Maltreatment*, 16(2), 79–101. <https://doi.org/10.1177/1077559511403920>
- \* Sturkie, K., & Flanzer, J. P. (1987). Depression and self-esteem in the families of maltreated adolescents. *Social Work*, 32(6), 491–496. <https://doi.org/10.1093/sw/32.6.491>
- \* Suzuki, H., & Tomoda, A. (2015). Roles of attachment and self-esteem: Impact of early life stress on depressive symptoms among Japanese institutionalized children. *BMC Psychiatry*, 15(1), 1–11. <https://doi.org/10.1186/s12888-015-0385-1>
- \* Swanston, H. Y., Tebbutt, J. S., O'Toole, B. I., & Oates, R. K. (1997). Sexually abused children 5 years after presentation: A case-control study. *Pediatrics*, 100(4), 600–608. <https://doi.org/10.1542/peds.100.4.600>
- Tanaka, M., Wekerle, C., Schmuck, M. L., Paglia-Boak, A., & MAP Research Team. (2011). The linkages among childhood maltreatment, adolescent mental health, and self-compassion in child welfare adolescents. *Child Abuse & Neglect*, 35(10), 887–898. <https://doi.org/10.1016/j.chiabu.2011.07.003>
- Taylor, T. L., & Chemtob, C. M. (2004). Efficacy of treatment for child and adolescent traumatic stress. *Archives of Pediatrics and Adolescent Medicine*, 158, 786–791. <https://doi.org/10.1001/archpedi.158.8.786>
- \* Tocker, L., Ben-Amitay, G., Horesh-Reinman, N., Lask, M., & Toren, P. (2017). Predictors of clinical outcomes in sexually abused adolescents. *Journal of Child Sexual Abuse*, 26(4), 487–505. <https://doi.org/10.1080/10538712.2017.1300204>
- \* Tong, L., Oates, K., & McDowell, M. (1987). Personality development following sexual abuse. *Child Abuse & Neglect*, 11(3), 371–383. [https://doi.org/10.1016/0145-2134\(87\)90011-1](https://doi.org/10.1016/0145-2134(87)90011-1)
- \* Toth, S. L., Manly, J. T., & Cicchetti, D. (1992). Child maltreatment and vulnerability to depression. *Development and Psychopathology*, 4(1), 97–112. <https://doi.org/10.1017/S0954579400005587>
- \* Trickett, P. K., Kim, K., & Prindle, J. (2011). Variations in emotional abuse experiences among multiply maltreated young adolescents and relations with developmental outcomes. *Child Abuse & Neglect*, 35(10), 876–886. <https://doi.org/10.1016/j.chiabu.2011.08.001>
- \* Turner, H. A., Finkelhor, D., & Ormrod, R. (2010). The effects of adolescent victimization on self-concept and depressive symptoms. *Child Maltreatment*, 15(1), 76–90. <https://doi.org/10.1177/1077559509349444>
- Viechtbauer, W. (2010). Conducting meta-analyses in R with the metafor package. *Journal of Statistical Software*, 36, 1–48. <https://doi.org/10.18637/jss.v036.i03>
- \* Vigil, J. M., & Geary, D. C. (2008). A preliminary investigation of family coping styles and psychological well-being among adolescent survivors of Hurricane Katrina. *Journal of Family Psychology*, 22(1), 176. <https://doi.org/10.1037/0893-3200.22.1.176>
- Von Elm, E., Altman, D. G., Egger, M., Pocock, S. J., Gøtzsche, P. C., Vandenbroucke, J. P., & Initiative, S. (2014). The Strengthening of Reporting of Observational Studies in Epidemiology (STROBE) Statement: Guidelines for reporting observational studies. *International Journal of Surgery*, 12(12), 1495–1499.
- \* Wang, S., Xu, H., Zhang, S., Yang, R., Li, D., Sun, Y., Wan, Y., & Tao, F. (2020). Linking childhood maltreatment and psychological symptoms: the role of social support, coping styles, and self-esteem in adolescents. *Journal of Interpersonal Violence*. <https://doi.org/10.1177/0886260520918571>
- \* Weiler, L. M., & Taussig, H. N. (2019). The moderating effect of risk exposure on an efficacious intervention for maltreated children. *Journal of Clinical Child & Adolescent Psychology*, 48(sup1), S194–S201. <https://doi.org/10.1080/15374416.2017.1295379>
- \* Wodarski, J. S., Kurtz, P. D., Gaudin, J. M., Jr., & Howing, P. T. (1990). Maltreatment and the school-age child: Major academic, socioemotional, and adaptive outcomes. *Social Work*, 35(6), 506–513. <https://doi.org/10.1093/sw/35.6.506>
- \* Wonderlich, S., Crosby, R., Mitchell, J., Thompson, K., Redlin, J., Demuth, G., & Smyth, J. (2001). Pathways mediating sexual abuse and eating disturbance in children. *International Journal of Eating Disorders*, 29(3), 270–279. <https://doi.org/10.1002/eat.1018>
- \* Wondie, Y., Zemene, W., Tafesse, B., Reschke, K., & Schröder, H. (2011). The psychosocial consequences of child sexual abuse in Ethiopia: A case-control comparative analysis. *Journal of*

- Interpersonal Violence*, 26(10), 2025–2041. <https://doi.org/10.1177/0886260510372937>
- World Health Organization. (2014). *Child Maltreatment*. Retrieved from [https://www.who.int/docs/default-source/documents/child-maltreatment/child-maltreatment-infographic-en.pdf?sfvrsn=7d798249\\_2](https://www.who.int/docs/default-source/documents/child-maltreatment/child-maltreatment-infographic-en.pdf?sfvrsn=7d798249_2)
- World Health Organization. (2018). International statistical classification of diseases and related health problems (11th Revision). Retrieved from <https://icd.who.int/browse11/l-m/en>.
- \* Wu, X., Qi, J., & Zhen, R. (2021). Bullying victimization and adolescents' social anxiety: Roles of shame and self-esteem. *Child Indicators Research*, 14(2), 769–781.
- \* Wu, W., Xie, R., Ding, W., Jiang, M., Sun, Z., Kayani, S., & Li, W. (2023). Can maternal involvement protect children from bullying victimization when fathers migrate for work? A serial mediation model. *Journal of Child and Family Studies*, 32(10), 3148–3158. <https://doi.org/10.1007/s10826-023-02629-6>
- \* Yoder, K. A., & Hoyt, D. R. (2005). Family economic pressure and adolescent suicidal ideation: Application of the family stress model. *Suicide and Life-Threatening Behavior*, 35(3), 251–264.
- \* Yoo, C. (2021). What are the characteristics of cyberbullying victims and perpetrators among South Korean students and how do their experiences change? *Child Abuse & Neglect*, 113, 104923. <https://doi.org/10.1016/j.chiabu.2020.104923>
- \* Yu, H. J., Zheng, M., Liu, X. X., Liu, M. W., Chen, Q. T., Zhang, M. Z., & He, Q. Q. (2021). The association of child neglect with lifestyles, depression, and self-esteem: Cross-lagged analyses in Chinese primary schoolchildren. *Behaviour Research and Therapy*, 146, 103950. <https://doi.org/10.1016/j.brat.2021.103950>
- Zeigler-Hill, V. (2011). The connections between self-esteem and psychopathology. *Journal of Contemporary Psychotherapy*, 41(3), 157–164.
- \* Zeller, M. H., Noll, J. G., Sarwer, D. B., Reiter-Purtill, J., Rofey, D. L., Baughcum, A. E., Peugh, J., Courcoulas, A. P., Mchalsku, M. P., Jenkins, T. M., & Becnel, J. N. (2015). Child maltreatment and the adolescent patient with severe obesity: Implications for clinical care. *Journal of Pediatric Psychology*, 40(7), 640–648. <https://doi.org/10.1093/jpepsy/jsv011>
- \* Zhang, X., Li, C., & Ma, W. (2022). The direct and indirect effects of adverse childhood experiences on depressive symptoms and self-esteem of children: Does gender make a difference? *International Journal of Mental Health and Addiction*. <https://doi.org/10.1007/s11469-022-00871-5>
- \* Zhou, X., Zhen, R., & Wu, X. (2019). Understanding the relation between gratitude and life satisfaction among adolescents in a post-disaster context: Mediating roles of social support, self-esteem, and hope. *Child Indicators Research*, 12(5), 1781–1795.
- \* Zhu, Y., Xiao, C., Chen, Q., Wu, Q., & Zhu, B. (2020). Health effects of repeated victimization among school-aged adolescents in six major cities in China. *Child Abuse & Neglect*, 108, 104654. <https://doi.org/10.1016/j.chiabu.2020.104654>

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