Population-Based Estimates of Associations Between Child Maltreatment Types: A Meta-Analysis

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Abstract

Although it is accepted that experiences of child maltreatment are multidimensional and often include several correlated but distinct experiences, many clinical and research decisions regarding exposure and treatment do not consider their potential overlap or potential independence. The purpose of this meta-analysis—using a single retrospective self-report measure, the Childhood Trauma Questionnaire (CTQ), in population-representative samples—was to investigate the magnitude and specificity of associations between forms of child maltreatment. A systematic review of studies available on PubMed, PsycINFO, and Google Scholar was conducted, resulting in the inclusion of nine journal articles, 11 independent samples, and 25,415 participants. Data were converted from Pearson correlations to Z statistics and pooled using a random effects model. All maltreatment types were positively and significantly associated. Effect sizes varied from medium to large, with (1) physical abuse and emotional abuse ($Z = 0.72$, 95% CI [.48, .96]), (2) physical neglect and emotional neglect ($Z = 0.62$, 95% CI [.43, .81]), and (3) emotional abuse and emotional neglect ($Z = 0.54$, 95% CI [.35, .72]) demonstrating the strongest associations. These analyses provide evidence of the associations between types of child maltreatment, indicate the likelihood of shared risk, and point to characteristics that may link different types of maltreatment. These findings have important clinical implications as they may help guide comprehensive screening for associated maltreatment types as well as intervention and prevention efforts. Limitations include the relatively few studies included and those associated with the CTQ—a retrospective, self-report measure that does not account for the concurrence of experiences.

Child maltreatment, which encompasses any act resulting in harm or threat of harm to a child and/or failure to provide for their needs or protect them from potential harm, is common, with approximately 678,000 confirmed U.S. cases in 2018 (U.S. Department of Health & Human Services, 2020). Experiences of abuse or neglect during early life pose a serious public health issue; beyond immediate physical harm, they may increase the long-term risk for poorer physical health, substance abuse, interpersonal violence, suicidality, and psychiatric disorders (Cohen et al., 2001; Gilbert et al., 2009; Hughes et al., 2017; Mathews et al., 2020). Recently, there is growing interest in better understanding the magnitude and specificity of these associations (Humphreys & Zeanah, 2015; McLaughlin et al., 2019; Zeanah & Sonuga-Barke, 2016), particularly given that child maltreatment is an umbrella term that consists of several correlated (at least at the group level) but distinct experiences including sexual abuse, physical abuse, emotional abuse, physical neglect, and emotional neglect.

There is debate regarding whether it is meaningful to differentiate experiences of adversity based on their likely biological effects. For example, Smith and Pollak (2020) recently proposed that there is little value in examining adversity experiences by type, given high rates of co-occurrence. In contrast, McLaughlin et al. (2019) counter that while types of adversity, including maltreatment, co-occur, lumping all subtypes into a

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single maltreatment factor would fail to account for the differences observed in the neurobiological effects based on different dimensions of experience. If forms of maltreatment are highly co-occurring, and more severe experiences are largely synonymous with the severity of other forms of maltreatment, this would undermine approaches to distinguish between maltreatment types. However, if there is evidence of differentiation, it suggests that there may be value in understanding both the etiology of different types of experiences and their long-term outcomes. From a prevention perspective, different approaches may be used depending on whether there are high levels of agreement among types of maltreatment or whether some types of maltreatment are less likely to "hang together" with other types (e.g., whether parents or others are likely to be perpetrators). From a practitioner's perspective, matching appropriate treatments to the specific presenting problems thought to be caused by adversity is essential. Evidence-based practice requires careful consideration of identifying the right intervention based on the likely exposures (e.g., exposure therapy for trauma; promotion of comfort-providing for the caregivers of children who experienced severe psychosocial neglect; Guyon-Harris et al., 2020).

One proposed framework to characterize maltreatment and other forms of adversity is the dimensional model of adversity and psychopathology (DMAP; McLaughlin et al., 2014; Sheridan & McLaughlin, 2014) which classifies exposures along dimensions of *threat* (e.g., abuse) and *deprivation* (e.g., neglect). Similarly, we acknowledge the value of prior approaches that consider maltreatment from the perspective of omission, or lack of expected environmental input, and commission, or the presence of harmful input (English, 1998; Humphreys & Zeanah, 2015). Alternative approaches to grouping types of maltreatment are supported by a recent meta-analysis of the Childhood Trauma Questionnaire (CTQ; Bernstein et al., 1994, 2003) that specifically assessed the relationship between subtypes of child maltreatment and subsequent depression (Humphreys et al., 2020). Its findings suggest that greater attention to the type of maltreatment experiences may be helpful for identifying those most at risk for particular negative outcomes as well as helping to advance our understanding of mechanisms of risk (Humphreys et al., 2020; McLaughlin, Colich, et al., 2020; McLaughlin, Sheridan et al., 2021).

The drive to link specific types of child experiences to distinct outcomes of interest is challenged by the reality that experiences of maltreatment tend to be multidimensional. Despite many clinical decisions about child maltreatment exposure being binary (e.g., above or below threshold), experiences of maltreatment are likely better captured along a continuum, given differences in exposure severity. In fact, the CTQ uses a dimensional approach to assess the severity of each maltreatment type through retrospective self-report. In the interest of maintaining consistency within analyses, our aim for the current meta-analysis was to focus on a single, widely used dimensional measure of child maltreatment, the CTQ, to examine the overlap between each type of child maltreatment. Given that study samples are often convenience community

samples or selected on the basis of clinical or other characteristics (which may affect estimates of maltreatment overlap), we sought population-representative (i.e., epidemiological) samples. Thus, in the current meta-analysis, we aimed to use epidemiological samples to identify the degree of overlap between different forms of child maltreatment (i.e., physical abuse, sexual abuse, emotional abuse, physical neglect, and emotional neglect) using the CTQ. Given previous findings on the overlap between maltreatment types (Arata et al., 2005; Bernstein et al., 1994; Dong et al., 2004), we hypothesized that all subtypes would be positively associated with one another. More specifically, we expected physical and emotional abuse to show large positive associations, as they both fall under the dimension of threat (McLaughlin et al., 2014; Sheridan & McLaughlin, 2014) and may have a common caregiving feature (i.e., hostile parenting; Iwaniec, 1995). Similarly, physical neglect and emotional neglect were expected to be highly correlated as both are considered experiences of deprivation (McLaughlin et al., 2014; Sheridan & McLaughlin, 2014) and may have a common caregiving feature (e.g., indifferent parenting; Iwaniec, 1995). In addition, and setting aside the DMAP approach, we hypothesized that emotional abuse and emotional neglect would be highly correlated as they have previously been found to overlap (Baker & Festinger, 2011) and may both stem from less attuned and sensitive caregiving. Finally, we hypothesized that sexual abuse would have the weakest correlation with all other maltreatment subtypes, largely because perpetrators of sexual abuse are not typically parents (Arata et al., 2005), while other types of maltreatment are most likely perpetrated by a parent (U.S. Department of Health & Human Services, 2020).

Method

The protocol for this meta-analysis was registered with the PROSPERO International Prospective Register of Systematic Reviews (CRD42019119544). This article was reported in compliance with the recommendations of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA).

Study Selection

Included studies satisfied the following inclusion criteria: (a) dimensional measurement of child maltreatment using the CTQ (long vs. short form), (b) population-based sample, and (c) data available to calculate effect sizes (i.e., correlation coefficients).

Search Procedure

The PRISMA flowchart (Figure 1) outlines the selection strategies used to identify the included journal articles. First, computer-based searches were run in PubMed, PsycINFO, and Google Scholar using the following terms: "childhood trauma questionnaire" OR "child trauma questionnaire" OR CTQ AND epidemiological OR population-based OR "population
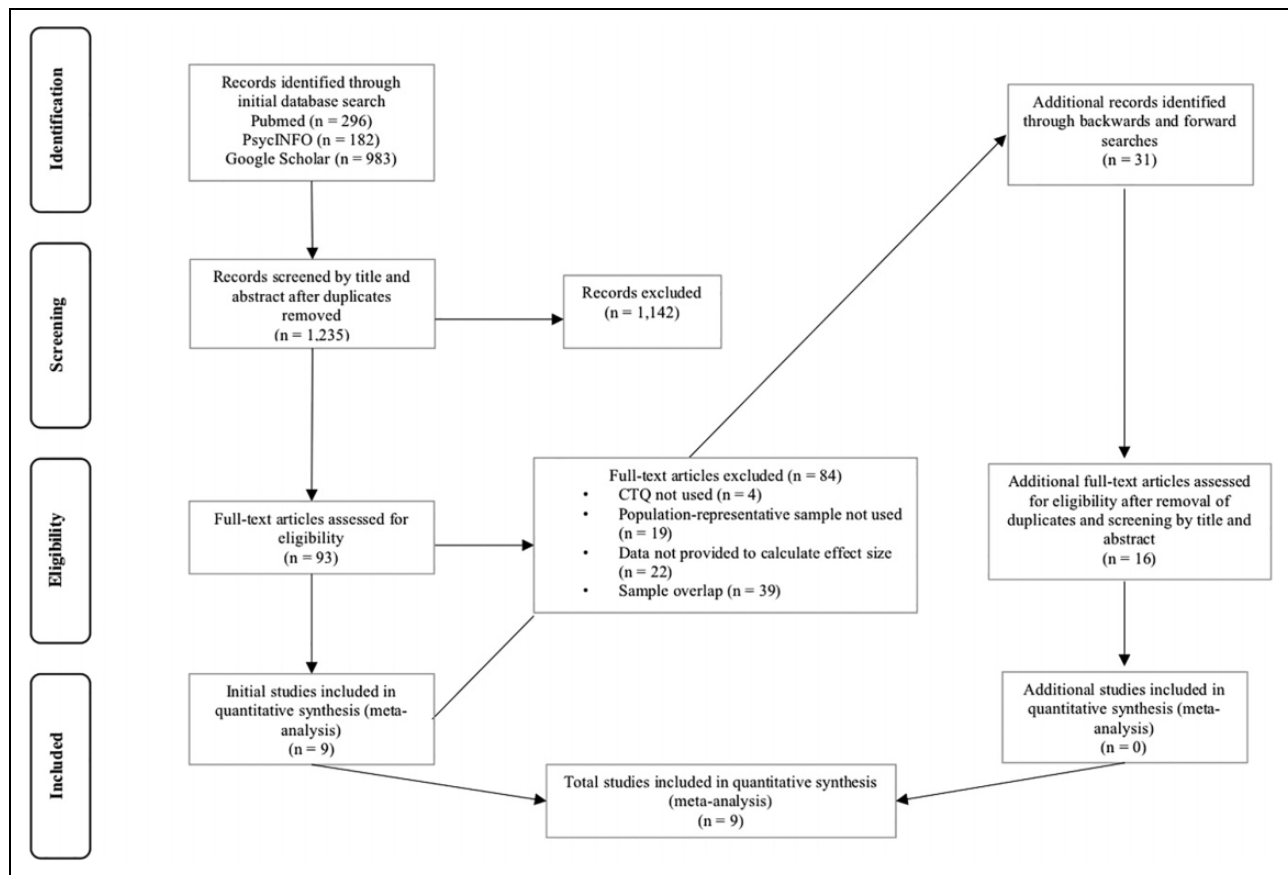
Figure 1. Identification of independent studies for inclusion in meta-analysis (Preferred Reporting Items for Systematic Reviews and Meta-Analyses).

representative" OR "representative sample" OR representative. Second, bibliographies of selected journal articles were reviewed for additional studies using both forward and backward searching. Although 31 additional studies were identified through this process based on the title alone, further review revealed that none were eligible for inclusion in the current meta-analysis. Searches were completed in March 2019. Most reviewed studies were excluded due to the use of samples non-population representative samples or provision of insufficient data for quantitative analysis.

Data Extraction

All search results underwent three phases of eligibility screening: (a) title, (b) abstract, and (c) full text. Two trained raters independently reviewed and coded studies during each phase of screening. Those designated as meeting eligibility criteria by either rater progressed to subsequent stages of screening. When raters provided contradictory judgments, disagreements were discussed, and the first author made a final determination. The first author emailed study contacts for journal articles that met primary eligibility criteria (i.e., dimensional measurement of child maltreatment using the CTQ and epidemiological

sample) but did not report the data necessary to calculate effect sizes to request correlation matrices or raw, deidentified data sets if available.

Moderator Variables

Potentially important demographic and methodological factors were tested to determine whether they moderated the associations between subscales of the CTQ whenever heterogeneous effect sizes were detected. The following demographic characteristics were coded when available: (a) mean age, (b) sex composition (% male), and (c) racial composition (% White). Additionally, the following methodological characteristics of each study were collected: (a) sample size, (b) year published, (c) version of the CTQ used (long vs. short form), (d) study country, and (e) language in which the CTQ was administered.

Calculation of Effect Size

Bivariate associations between subscales of the CTQ (i.e., Sexual Abuse, Physical Abuse, Emotional Abuse, Physical Neglect, and Emotional Neglect) were calculated by converting Pearson correlation values into Z values. A Z estimate of 0 indicated no association between subscales, whereas a Z value

Table 1. Descriptive Information for Included Studies.

Study	Sample Size	% Male	% White	Mean Age at the Time of Assessment (Years)	Country of Assessment	Language
Charak & Koot (2014)	702	58.50	NS	15.24	India	English
Greenfield et al. (2011)	835	46.11	92.43	58.27	United States	English
Hengartner et al. (2015)	1,170	NS	NS	29.17	Switzerland	German
Hogarth et al. (2019)	1,149	40.03	NS	16.24	South Africa	English
Jaffee et al. (2013)	1,116	NS	90.41	32.93	England	English
Klippel et al. (2018)	708	41.50	NS	17.80	Belgium	Dutch
Laaksonen et al. (2011)	12,922	35.30	NS	29.26	Finland	English
Thombs (2007a)	967	36.10	55.70	39.50	United States	English
Thombs (2007b)	832	33.10	55.20	41.00	United States	English
Witt et al. (2018a)	2,504	46.80	NS	50.60	Germany	German
Witt et al. (2018b)	2,510	46.70	NS	48.40	Germany	German

Note. NS = not specified.

greater than 0 or less than 0 indicated a positive or negative association between subscales, respectively. The relative precision of the measurement was represented by the 95% confidence interval (CI), where tighter ranges indicated more precise measurement.

Statistical Analysis

The standard Cochran's Q test was used to conduct random effects models and estimate heterogeneity of effect sizes (Hedges & Olkin, 1983). A nonsignificant Q test statistic suggests that the pooled odds ratio represents a unitary effect. When the p value associated with the Q test statistic was less than or equal to .05, random effects meta-regression analyses were conducted to determine whether the study characteristics described above could explain variability across studies. Begg's test was used to assess the presence of publication bias (Begg & Mazumdar, 1994). Leave-one-out (i.e., conducting the random effects model following the removal of each study individually, with replacement) sensitivity analyses were used to test whether a single study unduly influenced effect size estimates whenever significant heterogeneity was observed. Additionally, all coded moderator variables were examined as potential predictors of variance in effect sizes that showed significant heterogeneity. STATA Version 14 (StataCorp, 2015) was used to conduct all statistical analyses.

Results

A total of nine journal articles with 11 independent samples were identified and included in analyses, with participants from Belgium, Finland, Germany, India, South Africa, Switzerland, and the United States. Descriptive information for each study is presented in Table 1. In summary, included studies comprised of participants from multiple countries, with an average age of 33.87 years. Samples ranged from 33.10% to 58.50% male and 55.20% to 92.43% White, although these demographics were not reported in all studies. The short form of the CTQ was used in all samples and was administered in Dutch, German, or

English. Extracted and coded data can be obtained by emailing the senior author. For all 10 pairings of maltreatment types, significant associations were found (Table 2; Online Appendices 1–10). Effect size estimates varied by maltreatment type pairings from medium to large associations, with the strongest associations found for (1) emotional neglect and physical neglect, (2) emotional abuse and physical abuse, and (3) emotional abuse and emotional neglect, respectively (see Figure 2). All effect sizes obtained from meta-analyses differed significantly from zero, indicating a significant association between all pairings of maltreatment types. Evidence of significant heterogeneity was also found for all outcomes.

Publication Bias and Sensitivity Analyses

Begg's test did not reveal any significant evidence for publication bias in any of the associations between subscales (Table 2). Given the significant heterogeneity in effects, sensitivity analyses were conducted for all outcomes using the leave-one-out procedure. All effect size estimates remained significantly different from zero following this sensitivity analysis (Table 2).

Moderators

Moderators found to have statistical significance are presented by the outcome in Table 2. Older mean age of the sample was found to be associated with higher associations between (1) emotional abuse and emotional neglect, $t(10) = 2.55$, $p = .031$; (2) physical abuse and emotional neglect, $t(10) = 3.35$, $p = .009$; and (3) emotional abuse and physical neglect, $t(10) = 2.62$, $p = .028$. When racial diversity of the sample was examined, larger associations between physical abuse and physical neglect were identified in samples with greater proportions of White participants, $t(10) = 4.95$, $p = .039$. No other sample or study characteristics examined significantly predicted variation in effect sizes.

Table 2. Summary of Meta-Analysis Statistics by Correlations Between Subscales From the Childhood Trauma Questionnaire (CTQ).

CTQ Subscales Analyzed	Z Value [95% CI]	Effect Estimate Differed From 0	Test for Heterogeneity (Cochran's Q Test)	I^2 (%)	Pooled Z Range Using Leave-One-Out Analyses	Begg's Test	Moderators With Significant Associations
Emotional Abuse–Physical Abuse	Z = .65 [.57, .74]	Z = 14.84, p < .001	Q = 372.16, p < .001	97.3	.54–.63	Z = −1.38, p = .168	—
Emotional Abuse–Sexual Abuse	Z = .42 [.35, .49]	Z = 12.04, p < .001	Q = 222.59, p < .001	95.5	.41–.45	Z = −0.75, p = .453	—
Emotional Abuse–Emotional Neglect	Z = .59 [.45, .72]	Z = 8.69, p < .001	Q = 886.52, p < .001	98.9	.41–.63	Z = −1.72, p = .086	+ Older mean age
Emotional Abuse–Physical Neglect	Z = .47 [.38, .55]	Z = 10.99, p < .001	Q = 334.95, p < .001	97.0	.44–.51	Z = −1.58, p = .114	—
Physical Abuse–Sexual Abuse	Z = .43 [.33, .54]	Z = 8.06, p < .001	Q = 534.29, p < .001	98.1	.41–.46	Z = −1.42, p = .156	—
Physical Abuse–Emotional Neglect	Z = .41 [.34, .48]	Z = 11.78, p < .001	Q = 230.93, p < .001	95.7	.39–.44	Z = −0.69, p = .492	+ Older mean age
Physical Abuse–Physical Neglect	Z = .44 [.37, .50]	Z = 13.10, p < .001	Q = 211.37, p < .001	95.3	.42–.46	Z = −0.86, p = .389	+ Proportion White
Sexual Abuse–Emotional Neglect	Z = .32 [.25, .40]	Z = 8.40, p < .001	Q = 274.07, p < .001	96.4	.28–.35	Z = 1.08, p = .280	—
Sexual Abuse–Physical Neglect	Z = .34 [.29, .40]	Z = 12.20, p < .001	Q = 140.83, p < .001	92.9	.31–.35	Z = 1.08, p = .280	—
Emotional Neglect–Physical Neglect	Z = .68 [.65, .70]	Z = 50.42, p < .001	Q = 31.36, p < .001	68.1	.67–.68	Z = −1.72, p = .085	+ Older mean age

Discussion

This meta-analysis is the first to identify and describe the magnitude and specificity of associations between types of child maltreatment among population-representative samples. Data were drawn from 25,415 unique participants from 11 independent samples that used the CTQ to dimensionally assess five types of child maltreatment. These analyses produced several key findings. First, we identified significant positive associations between all five subtypes of maltreatment, ranging from Z = 0.32 to 0.65. Second, consistent with expectations, maltreatment types falling under the dimension of threat (i.e., physical and emotional abuse) shared the highest degree of overlap, followed by those under the dimension of deprivation (i.e., physical and emotional neglect), and emotional maltreatment (i.e., emotional abuse and neglect; see Figure 3). Furthermore, our hypothesis that sexual abuse would be the least correlated with all other maltreatment types was partially supported; four of the five lowest correlations included sexual abuse. These results support the idea that while experiences of maltreatment are distinct, specific associations with varying magnitudes exist between maltreatment types.

The primary findings of this study comport with literature indicating that experiences of adversity often overlap. In a review of studies examining the co-occurrence of child maltreatment types, Herrenkohl and Herrenkohl (2009) found that the percentage of maltreated individuals who retrospectively self-reported experiencing another type of maltreatment ranged from 42% to 66%. In terms of correlations, they found the lowest average correlation to exist between neglect and sexual abuse ($r = .36$) and the highest between physical abuse and emotional maltreatment ($r = .69$) among studies utilizing self-report. A growing line of work has used latent class and latent profile analysis to identify patterns of maltreatment. In a systematic review of studies of this type, Debowska et al. (2017) found that the groupings and the number of classes identified ranged across studies, but a poly-victimized group was identified in most studies. Importantly, this overlap is not just limited to experiences of child maltreatment; for example, there is a high rate of co-occurrence between witnessing domestic violence and experiencing child maltreatment (Hamby et al., 2010). The present study adds to this line of work indicating that experiences of child maltreatment—and more broadly, adversity—tend to overlap but are far from interchangeable.

Given that some pairings of maltreatment are more highly correlated than others (in the current study, the largest associations were between physical and emotional abuse, physical and emotional neglect, and emotional abuse and neglect), those who apply a dimensional approach that differentiates between threat and deprivation may view these findings as supportive. The DMAP approach (Sheridan & McLaughlin, 2014; McLaughlin, Sheridan et al., 2021) suggests that differentiating between dimensions of deprivation and threat may lead to a better understanding of the impact maltreatment experiences have on development (for a similar approach, see Humphreys & Zeanah, 2015). This theory provides one potential
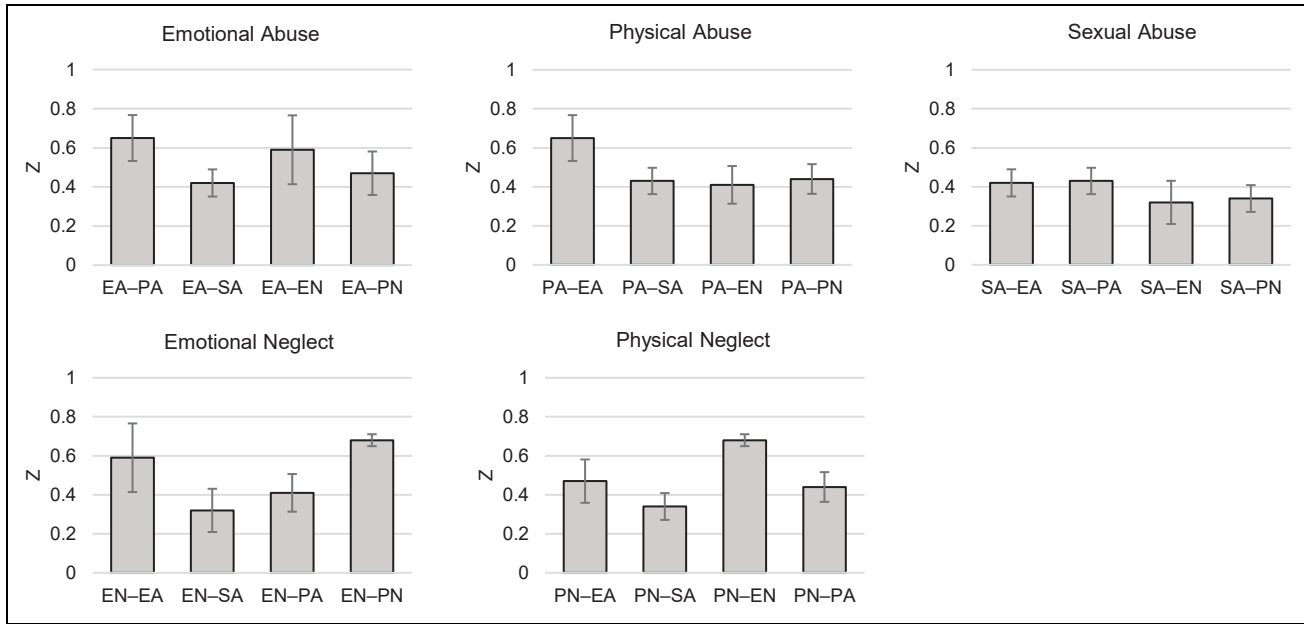
Figure 2. Visual representation of the bivariate associations between each type of maltreatment with the other. *Note.* A value of 0 indicates no association, with higher values indicating a more positive association. Bivariate associations are repeated to increase interpretability. EA = emotional abuse; PA = physical abuse; SA = sexual abuse; EN = emotional neglect; PN = physical neglect.
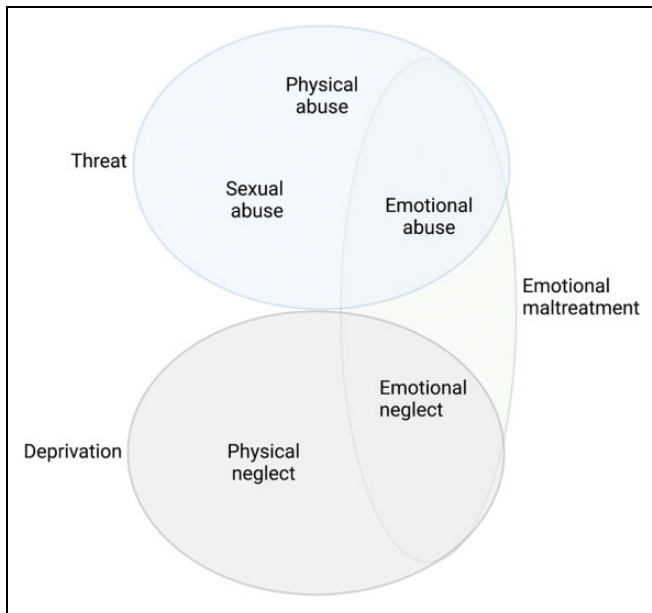

Figure 3. Visual representation of the five subtypes of maltreatment collected using the Childhood Trauma Questionnaire and their classifications into the dimensions of threat, deprivation, and emotional maltreatment. *Note.* Figure was created with BioRender.com.

explanation for high associations between physical and emotional abuse (i.e., threat) and emotional neglect and physical neglect (i.e., deprivation). Indeed, out of all groupings, we found maltreatment types falling under the dimension of threat to share the greatest association, closely followed by that of those under the dimension of deprivation. While urgency is placed on maltreatment types that may be more likely to be

life-threatening, there is evidence that even assessing for the presence of emotional maltreatment may be low. Trickett et al. (2009) found that when children presented to Child Protective Services (CPS) with co-occurring maltreatment, records identified less than 10% of youth as having experienced emotional abuse while a review of the full case records identified close to 50% as having experienced emotional abuse. Our results indicate the children referred for physical types of maltreatment should also be assessed for emotional maltreatment (particularly among the same threat vs. deprivation dimension) so that interventions can target both physical and emotional aspects of maltreatment in co-occurring cases.

An additional maltreatment grouping separates experiences of emotional maltreatment from physical or sexual maltreatment. The higher association between these two types of maltreatment may help to establish that emotional abuse and neglect may best be considered under the umbrella of emotional maltreatment, given their high associations. There are particular challenges unique to emotional maltreatment that make it more difficult for CPS to identify, investigate, and substantiate as compared to other forms of maltreatment (Shpiegel et al., 2013). Two of these challenges are the "invisibility" of emotional maltreatment (i.e., it does not leave a physical trace) and the lack of a clear definition and threshold for what constitutes emotional maltreatment (vs. suboptimal parenting; Baker, 2009). Although isolated cases of emotional maltreatment may not bring immediate physical harm to children, it is clear that CPS must evaluate this type of maltreatment and provide referrals for intervention. Increasing identification of emotional maltreatment will allow for more effective and targeted intervention, which is critical to mitigate

the adverse effects, including depression (Humphreys et al., 2020; LeMoult et al., 2020), of this form of maltreatment.

Prior work by Dong et al. (2004) used binary classifications to examine experiences of maltreatment and reported rates of experiences of one type of maltreatment among those who experienced other types. For example, they found that those who experience emotional abuse are more likely than not to experience other types of maltreatment, while the reverse association is not as strong. Our findings generally comport with those of Dong et al. (2004) as we also identified greatest effect sizes between the same three maltreatment type pairings (i.e., emotional abuse and physical abuse, emotional neglect and physical neglect, and emotional abuse and emotional neglect) and weak effects between sexual abuse and both types of neglect. However, while they identified a high prevalence rate of physical abuse among those who reported emotional neglect (57.5%), we found the association between physical abuse and emotional neglect to be one of the lowest. There are at least three nonmutually exclusive potential explanations for this difference. First, sample source may affect estimates of overlap between maltreatment types. Second, considering a binary relative to a dimensional approach may affect estimates differentially. And third, psychometrics of the CTQ may reveal shortcomings of assessments of emotional and physical neglect. Confirmatory factor analysis of the CTQ has previously resulted in the identification of four factors—after combining items from the physical and emotional neglect subscales to form a single "neglect" factor (Charak & Koot, 2014)—likely due to theoretical vagueness between neglect constructs, leading to a lack of discriminant validity between their corresponding subscales (Gerdner & Allgulander, 2009; Gil et al., 2009; Paivio & Cramer, 2004; Villano et al., 2004).

We considered participant age, sex, and racial diversity as potential moderators when provided. Larger associations were observed in samples with older mean ages for estimates between emotional neglect and physical abuse, emotional neglect and emotional abuse, and emotional neglect and physical neglect. It is unclear whether these findings are the result of (1) a recency effect, given that participant age referred to that at which retrospective assessment of maltreatment experiences during childhood was completed, or (2) generational shifts in children's experiences and the degree to which maltreatment experiences occur together. Given that every association involving emotional neglect—except that with sexual abuse—was moderated by age, it is possible that there is something unique about the recall of this type of maltreatment, or this could be evidence of a cohort effect.

Despite widespread use of retrospective assessments of child maltreatment, a growing body of research indicates that caution is needed when using retrospective reports of child maltreatment, given that these differ from prospective reports (Baldwin et al., 2019; Newbury et al., 2018; Nivison et al., 2021). This discrepancy may help to explain the moderating effect of age and the lower effect sizes noted between (1) emotional abuse and emotional neglect, (2) emotional abuse and physical neglect, and (3) physical abuse and emotional

neglect within the younger samples analyzed (i.e., Charak & Koot, 2014; Hogarth et al., 2019; Klippel et al., 2018). Retrospective reports may differ from prospective assessments due to motivated nondisclosure, recall biases, or considering experiences from a new vantage point. Associations obtained from the younger samples may be less biased by the passage of time. If true, this may indicate that a more modest relationship between these maltreatment subtypes exists.

Several additional limitations should be acknowledged. First, our findings are based on group-level data and therefore may not be representative of any given individual's experiences. Second, the number of studies included in our meta-analysis was relatively few. The selection of these few studies was due to our interest in identifying associations likely found in the general population. However, self-selection may still be influencing the sample makeup, as willingness to participate in a survey or research study in which these items were administered may differ as a function of maltreatment history. Third, the CTQ is a retrospective and self-report measure, and the accuracy of retrospective, self-report measures of childhood maltreatment is dependent on participants' memory, recognition of experiences as maltreatment, and willingness to disclose (Negriff et al., 2017). While other measures of childhood maltreatment (e.g., official CPS records) may identify additional (or different) individuals (Baldwin et al., 2019), our aim was to assess the relationship between maltreatment types measured on a continuum—given the multidimensional nature of maltreatment experiences—with a single measure for consistency. However, our selection of a single assessment of child maltreatment, while prioritizing measurement consistency, also has drawbacks, as other measures of child maltreatment from population-based samples would have allowed us to increase our total sample size. Additionally, we were unable to examine whether experiences of maltreatment occurred concurrently or in a time sequence as the CTQ does not collect information about the age of onset or offset of these experiences. Furthermore, we acknowledge that experiences of maltreatment are not the only form of hardship. Poverty, community violence, and exposure to domestic violence cluster together with maltreatment, and it is valuable to consider more broad assessments of adversity when considering the profiles of children (King et al., 2019). Finally, significant heterogeneity was observed among the studies, which may be explained by variations in study populations and settings.

Understanding the interrelationship between types of child maltreatment is of clinical value as it may provide support and guidance for treatment and intervention programs as well as advise comprehensive screening for associated types of maltreatment when a child is suspected to have been exposed to any single type of abuse or neglect. In terms of treatment, there is ample evidence that child maltreatment has a cumulative influence on outcomes, such that greater adjustment problems are found with individuals who experience multiple forms of maltreatment versus a single type (Arata et al., 2005; Higgins & McCabe, 2000) and for those who experience more severe maltreatment (Clemmons et al., 2007).

Our findings indicate that experiences of various types of child maltreatment are commonly related at the population level. Moreover, we find support for theoretical approaches that group (1) physical abuse with emotional abuse, (2) experiences of neglect (i.e., physical neglect with emotional neglect), and (3) experiences of emotional maltreatment (i.e., emotional abuse with emotional neglect), which likely point to similar environmental risk factors. These results provide strong evidence of the relationships between maltreatment types and highlight the importance of comprehensive assessment. Attending to the overlapping experiences of child maltreatment enables the refinement of research, intervention, and prevention efforts, which allows for the needs of high-risk children and families to be better met.

Conclusion

Summary of Critical Findings

- We identified significant positive associations between all five subtypes of maltreatment, ranging from $Z = 0.32$ to 0.65
- Maltreatment types falling under the dimension of *threat* (i.e., physical and emotional abuse) shared the highest degree of overlap, followed by those under the dimension of *deprivation* (i.e., physical and emotional neglect), and emotional maltreatment (i.e., emotional abuse and neglect)
- While experiences of maltreatment are distinct, specific associations with varying magnitudes exist between maltreatment types

Implications of Findings for Practice, Policy, and Research

Practice.
- Service providers should utilize comprehensive assessment when a child endorses a single type of maltreatment
- Practitioners should employ interventions that address overlapping exposures

Policy.
- Policy makers should support the development and implementation of prevention and intervention programs that address multiple forms of maltreatment

Research.
- Future studies should use tools that assess exposure severity
- Researchers should account for overlapping experiences of maltreatment as well as the potential for unique antecedents and consequences

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Supplemental Material

The supplemental material for this article is available online.

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