# The Impact of Adverse Childhood Experiences on Adult Emotional Distress: A Comprehensive Analysis

Carl T. Brinkmeier

Faculty of Behavioural, Management and Social Sciences (BMS)
Department of Psychology, University of Twente
202200087: MSc Thesis Positive Clinical Psychology and Technology
1st Supervisor: Dr. Thomas R. Vaessen
2nd Supervisor: Dr. Jannis T. Kraiss

July 18, 2024

**Abstract**

The rise of emotional distress globally highlights the need for a better understanding of its underlying causes. One well-established risk factor are adverse childhood experiences (ACEs). Existing research indicates that while all types of ACEs (emotional abuse, physical abuse, sexual abuse, physical neglect, emotional neglect) generally increase the risk for emotional distress (depression, anxiety, and stress) in adults, emotional abuse and neglect might be especially predictive. However, ACEs often co-occur, and it remains unclear if specific relationships can be observed when interelations are accounted for. Therefore, this study investigated whether all types of ACEs are significantly associated with emotional distress, and weather emotional abuse and neglect will have the strongest association with each type, if interrelations between the ACEs are accounted for. To assess this, a cohort of 57 participants (84.21% female, aged 19-35) completed the Childhood Trauma Questionnaire (CTQ) and the Depression, Anxiety, and Stress Scale (DASS-21). Multiple regression, including age and gender as covariates, were conducted to assess the individual relationships of ACEs with the types of emotional distress. The analyses revealed that emotional abuse was significantly associated with stress, while physical abuse was significantly associated with anxiety. These findings highlight that differential associations between ACEs and types of emotional distress exist, suggesting a need for targeted interventions. Future studies should use longitudinal designs to better understand these relationships, increase sample sizes for greater statistical power, and include a more diverse range of participants and demographic factors. Additionally, corrections for multiple comparisons should be applied to enhance the robustness of the findings.

*Keywords:* Adverse Childhood Experiences, Childhood Trauma, Child Abuse, Child Neglect, Emotional Distress, Depression, Anxiety, Stress

# The Impact of Adverse Childhood Experiences on Adult Emotional Distress: A Comprehensive Analysis

In recent years, the prevalence of depression, anxiety, and stress has risen to unprecedented levels. According to the World Health Organization (WHO), approximately 264 million people experienced depression, and 301 million people experienced anxiety in 2017 (World Health Organization, 2017). Recent studies reveal an even more dramatic increase in these conditions, in which the prevalence of stress, anxiety, and depression during the COVID-19 pandemic rose to 29.6%, 31.9%, and 33.7%, respectively (Salari et al., 2020). These figures starkly contrast with earlier estimates, which ranged from 7.1% to 12.9% for depression, 11.4% to 19.1% for anxiety, and 8.6% to 30% for stress (Kessler et al., 2005; Baxter et al., 2013; Karsten et al., 2011). The high baseline level and the continuous increase in emotional disturbances highlight the necessity of understanding risk factors contributing to their development to inform targeted mitigation strategies.

One already well studied risk factor for the development of depression, anxiety, and stress are adverse childhood experiences (ACEs). These potentially traumatic experiences during childhood negatively influence developmental processes and impact adult mental health lastingly (Felitti et al., 1998; Hughes et al., 2017; Teicher et al., 2016). Childhood adversities encompass a wide range of situations that can seriously compromise a child's physical and/or mental health before the age of 18 (Bartlett & Sacks, 2019). This includes experiencing violence, abuse, or neglect; witnessing violence in the home or community; and having a family member attempt or die by suicide. Additionally, growing up in a household with substance misuse, mental health problems, or instability due to parental separation or household members being in jail or prison are considered ACEs (Centers for Disease Control and Prevention, 2019). Approximately two-thirds of individuals encounter some form of adversity during their childhood, and most people who experience one type of ACE are likely to experience another (Kessler et al., 2005).

Previous studies have categorized the wide array of different ACEs into five subtypes: physical abuse, physical neglect, sexual abuse, emotional abuse and emotional neglect (Bernstein et al., 1994; Dong et al., 2004). Neglect involves the failure to provide emotional or physical care for a child, while abuse encompasses intentional harmful actions inflicted upon the child, whether they are violent (physical abuse), sexual (sexual abuse), or emotionally distressing (emotional abuse). An array of studies showed that within these different types of ACEs, emotional abuse and neglect have particularly strong associations with depression, anxiety, and stress. Mandelli et al. (2015) and LeMoult et al. (2020) noted

that emotional abuse is a more significant predictor of adult depression than physical or sexual abuse. Dye (2019) and Grummitt et al. (2021) demonstrated that emotional abuse and neglect are more predictive of anxiety and stress compared to other forms of abuse. Mandelli et al. (2015) and Nikulina et al. (2011) found that emotional neglect predicts more severe, early-onset, and treatment-resistant depression. Similarly, emotional neglect has been shown to be a stronger predictor of anxiety compared to other forms of childhood trauma (Grummitt et al., 2021; Salokangas et al., 2020).

However, other ACEs are also associated with emotional distress, even though studies suggest a somewhat weaker link compared to emotional abuse and neglect. For example, physical abuse during childhood has been identified as a significant predictor of adult depression (LeMoult et al., 2020; Lindert et al., 2014; Mandelli et al., 2015). Studies by Gardner et al. (2019) and Widom et al. (2018) additionally found that physical abuse is significantly associated with anxiety disorders. Furthermore, physical abuse has been linked to an increased risk of stress-related disorders (Wegman & Stetler, 2009). Sexual abuse has been linked to an increased likelihood of developing major depressive disorder (Bifulco et al., 1991; Weiss et al., 1999) and anxiety disorders (Lindert et al., 2014; Maniglio et al., 2013). Sexual abuse is also associated with increased activity in brain regions involved in emotional regulation and stress response, contributing to chronic stress experiences (Wegman & Stetler, 2009). Physical neglect during childhood has also been identified as a predictor of depressive disorders (Johnson et al., 2002; Widom et al., 2007). It is also associated with anxiety disorders, since neglected children are more likely to develop anxious and avoidant attachment styles (Salokangas et al., 2020; Widom et al., 2018). Furthermore, physical neglect is associated with heightened physiological stress responses (Schreier et al., 2013).

Overall, existing research indicates that exposure to any such ACE negatively impacts adult well-being, increases the likelihood of mental and physical health problems, and poses a risk factor for early death (Felitti et al., 1998). While a general association between ACEs and emotional distress is established, the specific associations between certain ACEs and particular types of emotional distress remain unclear. This lack of clarity arises partly because only a handful of studies have investigated the relationship between ACEs and the different types of emotional distress using a conceptually sound approach. For example, many studies fail to account for the fact that different types of ACEs often co-occur, which can complicate the examination of their distinct effects on emotional distress. Additionally, only few studies utilize the comprehensive five-subtype conceptualization of ACEs as proposed by Bernstein et al. (2003). Although it can be important to conceptualize ACEs differently for specific

research questions, the five-subtype structure provides the most comprehensive and precise operationalization of childhood adversity for investigation (Bernstein et al., 2003). Furthermore, the vast majority of studies focuses on clinically preset psychopathological conditions such as major depressive disorder, generalized anxiety disorder, substance abuse, or PTSD (Chapman et al., 2004). While this can be important, studies are lacking that investigate the underlying types of emotional distress that may not always reach clinical level. Only very few studies specifically investigated different types of emotional distress and their relationship with ACEs. One of these studies, conducted by Dye (2019), confirmed the notion that emotional abuse was significantly associated with higher scores on measures of depression, anxiety, and stress compared to other forms of abuse. However, this study did not adequately account for the fact that different types of ACEs often co-occur and influence each other (Dong et al., 2004). For instance, a child who experiences emotional abuse may also be more likely to experience physical abuse or neglect. This can make it difficult to isolate the specific effects of each type of abuse, as the combined impact of multiple ACEs might differ from the impact of a single type of abuse (Dong et al., 2004). Similar findings were made by a meta-analysis conducted by LeMoult et al. (2020), who found that emotional abuse has a particularly strong association with depression. However, ACEs were here conceptualized as early life stress (ELS) and included subcategories such as poverty and natural disasters. This meta-analysis also did not explicitly include anxiety and stress as outcomes and focused solely on depression.

In summary, there is still a lack of studies that use the conceptually sound five-subtype definition of ACEs, investigate depression, anxiety, and stress as types of emotional distress rather than predefined psychopathological conditions, and identify specific relationships between different types of ACEs and types of emotional distress while accounting for potential interrelations between the ACEs. The aim of the current study is therefore to examine if unique associations between different ACEs and different types of emotional distress are present when the comprehensive five-subtype structure is utilized and potential interrelation between these ACEs are accounted for. Specifically, the study seeks to determine if all ACEs are significantly associated with all types of emotional distress, and whether emotional abuse and neglect have the strongest associations with all types of emotional distress if these conditions are met.

The hypotheses of this study are therefore:

I. All ACEs will be associated with depression in adults.

II. All ACEs will be associated with anxiety in adults.

III. All ACEs will be associated with stress in adults.

IV. Emotional abuse and neglect will have the strongest association with all of these outcomes.

## Methods

In order to test these hypotheses, data gathered by a study of De Calheiros Velozo et al. (2021) was used to conduct secondary analysis with. In this study, different questionnaires were used to contribute to a larger project which used an experience sampling methodology. For the purpose of the present study, relevant data gathered by these questionnaires will be utilized.

### Participants

The study's participant pool was composed of individuals selected through a convenience sampling method. Recruitment was conducted in Leuven, Belgium, using both physical flyers and digital outreach through social media platforms. Eligibility criteria were fluency in Dutch and an age between 18 and 35 years. Exclusion criteria were i) hormonal or cardiovascular disorders, ii) ongoing medication usage, iii) relevant allergies, or iv) illicit drug use within the preceding three months. The Sociaal-Maatschappelijke Ethische Commissie (SMEC) of KU Leuven granted ethical approval for this study (De Calheiros Velozo et al., 2021).

### Procedure

Before participation, all individuals were briefed on the objectives of the study and provided their informed consent. Upon arrival at the study location, participants answered a baseline questionnaire that included questions about demographic data such as age, gender, nationality and level of education, followed by a series of ten standardized scales to assess various psychological constructs. Among these, the Childhood Trauma Questionnaire (CTQ) and the Depression and Anxiety Symptom Scale (DASS-21) are relevant for the current study. Upon completion, the participants were reimbursed with 30 Euros for their participation.

### Measures

#### *Childhood Adversity*

The Childhood Trauma Questionnaire (CTQ) was used to evaluate the participants ACEs. This questionnaire encompasses subscales for physical, emotional, and sexual abuse, as well as physical and emotional neglect that has occurred before the age of 18 (Bernstein et

al., 1994; Dovran et al., 2013). With a total of 28 items, the CTQ allocates five items to each ACE subscale. Participants responded using a five-point Likert scale, ranging from 1 (“never true”) to 5 (“very often true”), indicating the frequency of their perceived experiences. The CTQ demonstrated excellent internal consistency, evidenced by a Cronbach’s alpha of .95 in previous research, and has been validated in diverse populations which confirms its suitability (Bernstein et al., 1994; Dovran et al., 2013). In the current sample, the internal consistency was .89 for physical abuse, .94 for emotional abuse, .98 for sexual abuse, .44 for physical neglect, and .91 for emotional neglect. The range of the final scale is from 25 to 125, with higher scores indicating a greater extent of experienced ACEs. The scoring information for the CTQ is shown in table one.

**Table 1**

*Scoring Information for CTQ*

| Level of Abuse | Physical Abuse | Emotional Abuse | Sexual Abuse | Physical Neglect | Emotional Neglect |
|---|---|---|---|---|---|
| None | 0-7 | 0-8 | 0-5 | 0-7 | 0-9 |
| Low | 8-9 | 9-12 | 6-8 | 8-9 | 10-14 |
| Moderate | 10-12 | 13-15 | 9-12 | 10-12 | 15-17 |
| Severe | 13+ | 16+ | 13+ | 13+ | 18+ |

*Note.* Bernstein D., Fink L. (1998). Childhood Trauma Questionnaire. A Retrospective Self-Report Questionnaire and Manual. San Antonio.

***Depression, Anxiety, and Stress***

To assess symptoms of anxiety, depression and stress, the Depression, Anxiety, and Stress Scale (DASS-21) was used. The DASS-21, developed by Lovibond and Lovibond (1995), comprises 21 items consisting of three subscales of 7 items each, inquiring about symptoms of depression, stress, and anxiety. Respondents rate the extent of their experiences regarding each symptom over the past week on a four-point Likert scale, ranging from 0 (did not apply) to 3 (applied very much / most of the time). The DASS-21 has been validated with a high internal consistency and a reported Cronbach's alpha of .91 for the depression scale, .84 for the anxiety scale, and .90 for the stress scale (Antony et al., 1998). In the current sample, the internal consistency was .80 for Depression, .74 for Anxiety, and .84 for Stress, indicating high reliability. The range of scores for each subscale ranges from 0 to 21 and is to be doubled

for final scoring, with higher scores indicating more severe symptoms. The scoring information for the DASS-21 is shown in table two.

**Table 2**

*Scoring Information for the DASS-21*

| Severity | Depression | Anxiety | Stress |
|---|---|---|---|
| Normal | 0-9 | 0-7 | 0-14 |
| Mild | 10-13 | 8-9 | 15-18 |
| Moderate | 14-20 | 10-14 | 19-25 |
| Severe | 21-27 | 15-19 | 26-33 |
| Extremely Severe | 28+ | 20+ | 34+ |

*Note.* Lovibond, S.H. & Lovibond, P.F. (1995). Manual for the Depression Anxiety & Stress Scales. (2nd Ed.) Sydney: Psychology Foundation.

**Data Analysis**

Descriptive statistics including age, gender distribution, educational level, marital status, and occupation of the participants were calculated. Additionally, descriptive statistics for the emotional distress profile (depression, anxiety, stress) and the ACE exposure of the participants were computed. To test the hypotheses, three separate regression models were run with anxiety, depression, and stress as dependent variables. The independent variables included the five types of ACEs, being physical abuse, emotional abuse, sexual abuse, physical neglect, and emotional neglect. Age and gender were included as covariates in all models to control for their potential influence on the relationships between ACEs and the different types of emotional distress. The $R^2$ value was calculated to determine how much variance in the dependent variable was explained by the model. To ensure the reliability of the findings robust standard error analysis was performed for each regression model. This involved recalculating the standard errors and *p*-values using the Huber-White method. To ensure that multicollinearity did not excessivly influence the regression analyses, Variance Inflation Factor (VIF) values were calculated for each predictor in the models. A VIF value below 5, was considered acceptable in indicating that multicollinearity was not a severe issue (Kutner et al., 2004).

## Results

The final dataset comprised 57 participants after removing one record with missing values. The sample had an age range of 19 to 35 years ($M$ = 24.23, $SD$ = 3.27) and was predominantly female (84.21%, n = 48). Most participants were single (54.39%) or in a relationship (26.32%), and a majority were students (59.65%). The complete sample characteristics are shown in table three. The sample showed overall average scores at the "Normal" level of emotional distress, which is the lowest possible range (Lovibond & Lovibond, 1995). The distress levels per type of emotional distress are shown in table four. Indication of how frequent the different types of ACEs were reported and at which level of severity is shown in table 5.

**Table 3**

*Characteristics of the Sample (n=57)*

| | n | % |
|---|---|---|
| Gender | | |
| Male | 9 | 15.79 |
| Female | 48 | 84.21 |
| Nationality | | |
| Belgian | 49 | 85.96 |
| Dutch | 4 | 7.02 |
| Others | 4 | 7.01 |
| Marital Status | | |
| Single | 15 | 26.32 |
| In a relationship | 31 | 54.39 |
| Married | 10 | 17.54 |
| Others/ NA | 1 | 1.75 |
| Education | | |
| NA | 1 | 1.75 |
| 2 | 17 | 29.82 |

| | n | % |
|---|---|---|
| 3 | 39 | 68.42 |
| Occupation | | |
| Working | 22 | 38.60 |
| Student | 34 | 59.65 |

*Note.* NA = No Answer

**Table 4**

*Distress Levels of the Sample*

| Subscale | Mean | *SD* | Variance | Observed Range | Normal | Mild | Moderate | Severe | Extremely Severe |
|---|---|---|---|---|---|---|---|---|---|
| Depression | 6.14 | 3.21 | 10.30 | 0-15 | 54 | 1 | 2 | 0 | 0 |
| Anxiety | 4.52 | 2.87 | 8.23 | 0-14 | 54 | 1 | 2 | 0 | 0 |
| Stress | 12.38 | 4.28 | 18.30 | 0-16 | 55 | 2 | 0 | 0 | 0 |

*Note. SD* = Standart Deviation. Severity ranges: Normal (Depression: 0-9, Anxiety: 0-7, Stress: 0-14), Mild (Depression: 10-13, Anxiety: 8-9, Stress: 15-18), Moderate (Depression: 14-20, Anxiety: 10-14, Stress: 19-25), Severe (Depression: 21-27, Anxiety: 15-19, Stress: 26-33), Extremely Severe (Depression: 28+, Anxiety: 20+, Stress: 34+).

**Table 5**

*Descriptive Statistics and Frequency of ACEs*

| Adversity | Mean | *SD* | Variance | None | Low | Moderate | Severe |
|---|---|---|---|---|---|---|---|
| Physical Abuse | 5.74 | 2.44 | 5.95 | 53 | 2 | 0 | 2 |
| Emotional Abuse | 9.05 | 5.05 | 25.50 | 13 | 31 | 7 | 6 |
| Sexual Abuse | 6.00 | 3.78 | 14.30 | 48 | 5 | 2 | 2 |
| Physical Neglect | 8.16 | 1.73 | 2.99 | 40 | 10 | 5 | 2 |
| Emotional Neglect | 16.30 | 3.69 | 13.60 | 32 | 17 | 1 | 7 |

*Note.* None, Low, Moderate, and Severe indicate the frequency of participants falling into each category of adversity severity.

The regression analyses revealed that all three model were significant. The model predicting anxiety was significant, $F(7, 49) = 7.19$, $p < .001$, with an $R^2$ of .51. Physical abuse ($B = 0.65$, $p = .001$) and gender ($B = -1.70$, p = .037) were significant predictors, confirmed by robust standard error analysis ($p = .011$ for physical abuse and $p = .024$ for gender). For depression, the regression model was also significant, $F(7, 49) = 2.83$, $p = .015$, with an $R^2$ of .29. However, none of the ACE predictors remained significant when robust standard error analysis was applied. The model predicting stress was significant, $F(7, 49) = 3.28$, $p = .006$, with an $R^2$ of .32. Emotional abuse ($B = 0.67$, $p = .005$) emerged as a significant predictor, confirmed by robust standard error analysis ($p = .031$). In summary, emotional abuse showed a significant association with stress, while physical abuse was significantly associated with anxiety. No significant associations were found for emotional neglect, physical neglect, or sexual abuse with any of the emotional distress outcomes when using robust standard error analysis.

**Table 6**

*Regression Results for the Effect of ACEs on Emotional Distress*

| Model | Predictor | *B* | Standardized *B* | *SE* | *t* | *p* | VIF |
|---|---|---|---|---|---|---|---|
| Anxiety | (Intercept) | 1.25 | - | 2.57 | 0.49 | .629 | |
| | Physical Abuse | 0.65 | 0.48 | 0.19 | 3.42 | .001* | 2.20 |
| | Emotional Abuse | 0.24 | 0.28 | 0.13 | 1.85 | .070 | 2.31 |
| | Sexual Abuse | 0.07 | 0.05 | 0.10 | 0.69 | .497 | 1.74 |
| | Physical Neglect | 0.03 | 0.08 | 0.16 | 0.19 | .847 | 1.70 |
| | Emotional Neglect | -0.11 | -0.18 | 0.10 | -1.16 | .254 | 2.26 |
| | Age | -0.14 | -0.44 | 0.10 | -1.39 | .170 | 1.31 |

| Model | Predictor | *B* | Standardized *B* | *SE* | *t* | *p* | VIF |
|---|---|---|---|---|---|---|---|
| | Male Gender | -1.70 | -0.21 | 0.79 | -2.15 | .037* | 1.03 |
| Depression | (Intercept) | -0.46 | - | 3.45 | -0.13 | .895 | |
| | Physical Abuse | 0.49 | 0.38 | 0.25 | 1.94 | .058 | 2.20 |
| | Emotional Abuse | 0.22 | 0.23 | 0.18 | 1.26 | .213 | 2.31 |
| | Sexual Abuse | 0.15 | 0.16 | 0.14 | 1.09 | .282 | 1.74 |
| | Physical Neglect | -0.18 | -0.13 | 0.22 | -0.82 | .418 | 1.70 |
| | Emotional Neglect | -0.08 | -0.10 | 0.13 | -0.59 | .557 | 2.26 |
| | Age | -0.00 | -0.00 | 0.14 | -0.03 | .979 | 1.31 |
| | Male Gender | -0.66 | -0.09 | 1.06 | -0.62 | .538 | 1.03 |
| Stress | (Intercept) | -4.52 | - | 4.50 | -1.00 | .320 | |
| | Physical Abuse | 0.04 | 0.08 | 0.33 | 0.13 | .897 | 2.20 |
| | Emotional Abuse | 0.67 | 0.52 | 0.23 | 2.92 | .005* | 2.31 |
| | Sexual Abuse | 0.06 | 0.06 | 0.18 | 0.31 | .754 | 1.74 |
| | Physical Neglect | -0.16 | -0.13 | 0.28 | -0.58 | .564 | 1.70 |
| | Emotional Neglect | 0.00 | 0.02 | 0.17 | 0.01 | .994 | 2.26 |
| | Age | 0.15 | 0.10 | 0.18 | 0.86 | .392 | 1.31 |
| | Male Gender | 0.36 | 0.03 | 1.39 | 0.26 | .798 | 1.03 |

*Note.* $p < .05$

## Discussion

This study investigated whether different types of ACEs have distinct associations with specific types of emotional distress in adults. The primary aim was to determine if all types of ACEs are associated with depression, anxiety, and stress, and if emotional abuse and neglect have stronger associations with these types of emotional distress compared to other types of ACEs. The findings reveal that, while controlling for potential interrelation between the ACEs, emotional abuse is significantly associated with stress, while physical abuse is significantly associated with anxiety. No significant associations were found between other types of ACEs (sexual abuse, emotional neglect, and physical neglect) and the types of emotional distress examined.

### Emotional Abuse and Stress

Emotional abuse in childhood is significantly associated with stress in adulthood. This result aligns with existing research that draws a connection between the impact of emotional abuse experiences on stress. Emotional abuse is particularly damaging due to its continuous and pervasive nature that involves experiences such as belittling, constant criticism, and manipulation. These behaviors are structurally embedded in the relationship between the child and the caregiver, making the experience of abuse extremely dense and persistent (Teicher et al., 2006; Spinazzola et al., 2014). According to emotion regulation theory, these experiences disrupt the development of healthy emotion regulation strategies since the child is continuously exposed to invalidating and harmful emotional interactions (Gruhn & Compas, 2020). This constant disruption leads to difficulties in managing emotions and contributes to chronic stress (Gross, 2002). Consequently, emotional abuse prevents the child from forming appropriate inner representations of social interactions, leading to a maladaptive worldview where the world is seen as confusing, unstable, and hostile. This perpetuates a heightened state of vigilance and stress that can remain manifested in adulthood (Maguire et al., 2015). Emotional abuse differs from other forms of abuse in its persistent nature. Unlike episodic forms of abuse such as physical abuse, which may diminish as the child grows older, emotional abuse generally remains insidious and fluent (Korolevskaia & Yampolskaya, 2022). This allows it to persist within the caregiver-child relationship for extended periods, exacerbating its impact on emotional regulation and stress responses, perpetuating chronification (Heim et al., 2008; van der Kolk, 2009). These chronified stress experienced in turn lead to increased allostatic load in the victim, resulting in negative consequences such as the continuous activation of the body's stress response system on a psychobiological level, further manifesting stress experiences (McEwen, 1998).

Overall, the findings of the current study suggest that emotional abuse in childhood predisposes individuals to chronic stress in adulthood due to its continuous, pervasive nature that negatively influences the child's ability to produce a positive inner representation of the world and adequate emotion regulation strategies, ultimately provoking chronic stress responses that can manifest on a psychobiological level.

**Physical Abuse and Anxiety**

This study identified a significant association between physical abuse in childhood and anxiety in adults, which is consistent with previous findings (Coles et al., 2015). The significant association between physical abuse and anxiety could be due to the immediate and severe nature of physical abuse, which can create a persistent state of fear and hypervigilance, common features of anxiety disorders. Physical abuse often involves direct threats to personal safety, leading to heightened harm anticipation and general anxiety (Shackman et al., 2007). Furthermore, individuals who have experienced physical abuse may develop maladaptive coping mechanisms, such as avoidance and hyperarousal, which are closely associated with anxiety symptoms (Kendall-Tackett, 2000).

However, it was expected that a more significant association would be identified between emotional abuse and/or neglect and anxiety, which was not the case. This could be due to the heavily female sample (84.21%) of this study, and the finding that males reported lower levels of anxiety compared to females. This aligns with prior research showing that females are generally more likely to develop anxiety than males, potentially due to a combination of genetic, hormonal, and psychosocial factors (McLean et al., 2011; Engel, 1977). Gender-specific socialization practices, which encourage women to be more emotionally expressive and to seek social support, may also lead to increased reporting of anxiety symptoms among females (Pirkola et al., 2005). Conversely, societal expectations for men to exhibit emotional resilience and stoicism might result in underreporting of such symptoms (Vogel et al., 2007). Additionally, hormonal differences, such as the effects of estrogen and progesterone on the hypothalamic-pituitary-adrenal (HPA) axis, may make women more biologically predisposed to anxiety disorders following adverse experiences such as physical abuse (Gallo et al., 2014; Ter Horst et al., 2012).

**Lack of Significant Findings for Neglect and Sexual Abuse**

Despite evidence linking sexual abuse to depression, anxiety, and stress (Bifulco et al., 1991; Weiss et al., 1999; Lindert et al., 2014), this study found no such associations. One possible explanation for this discrepancy is the low prevalence of reported sexual abuse in the sample. Past studies have shown that in samples where abuse experiences are

underrepresented, the ability to detect strong associations with depression and anxiety may be limited (Boudewyn et al., 1995). Moreover, the reliance on self-reported data in this study introduces the possibility of recall bias, which can affect the accuracy of the reported experiences of abuse. Recall bias occurs when participants do not accurately remember or report past events, which is particularly common in cases of traumatic experiences like sexual abuse (Loftus, 1997). This can result in a biased estimation of the true impact of sexual abuse. For instance, a study by Williams (1994) reported that 38% of women who were documented as victims of sexual abuse in childhood did not recall the abuse some 17 years later, with younger women and those abused by known individuals more likely to have no recall. This might be a relevant factor as this studys sample mostly consisted of young women. Another factor to consider is the role of moderating variables that were not fully accounted for in this study. Variables like the presence of supportive relationships and individual resilience, can moderate how sexual abuse influences emotional distress. Boudewyn et al. (1995) found that individuals with strong social support networks are better able to cope with the effects of sexual abuse, which can mitigate the development of depression, anxiety, and stress. Without accounting for these moderating factors, the direct association between sexual abuse and mental health outcomes may appear weaker.

For emotional and physical neglect, also no significant associations were found, which is inconsistent with studies highlighting their impact on depression, anxiety, and stress (Mandelli et al., 2015; Widom et al., 2007). One reason could be that neglect generally involves subtler forms of maltreatment that might not be readily recalled compared to other forms of ACEs, and thus remain underreported (Briere et al., 1996). Neglect experiences often lack the clear, episodic nature that forms of abuse create, making it harder for individuals to recall and report them accurately (Gilbert et al., 2009). Neglect can be described as a more symbolic form of violence (Bourdieu, 1991), where the harm is not directive but rather implicit. Symbolic violence is also less visible than abuse and can more easily be internalized by children as part of their reality construction, making it harder to recognize and report them later in life (Bourdieu, 1991). According to the dynamics-maturational model of attachment, neglect primarily impacts implicit memory systems that form a child’s unconscious expectations, making neglect experiences less likely to be recalled as distinctly traumatic (Crittenden, 1997). This subtlety might contribute to the underreporting of the severity of neglect experiences, as the threshold to do so is more elevated compared to experiences of abuse.

**Strengths and Limitations**

By analyzing ACEs within the five-subtype framework using multiple regression, this study provides a comprehensive view of the differential association between ACEs and emotional distress. This approach aligns with past recommendations for multifaceted analyses of ACEs to understand their complex impacts on mental health (Felitti et al., 1998; Bernstein et al., 2003). This study specifically investigated potentially unique associations between the five ACEs physical abuse, physical neglect, sexual abuse, emotional neglect, and emotional abuse and the three most common types of emotional distress, depression, anxiety, and stress, while accounting for interrelation of the ACEs.

However, several limitations warrant cautious interpretation of the results. First, the low prevalence of certain ACEs in the sample, such as sexual abuse, might have affected the findings. Low incidence rates can limit the statistical power to detect significant associations and may result in an underestimation of the true impact of these ACEs (Bifulco et al., 1991). Second, the sole reliance on self-reported measures introduces the possibility of response biases such as social desirability bias and recall bias. Participants may underreport or overreport their experiences of ACEs and current emotional distress which would affect the accuracy of the findings. Self-reported data, while useful, often lacks the objectivity and precision of clinically verified assessments (Loftus, 1997). Third, the study did not account for potential confounding variables such as socio-economic status, family history of mental illness, and current life stressors. These factors can significantly influence the development and expression of emotional distress, possibly confounding the observed associations (Beardslee et al., 2011; Liu & Alloy, 2010). Fourth, the cross-sectional design of this study limits the ability to understand the directionality between ACEs and types of emotional distress. Longitudinal studies are needed to verify the found associations and to better understand the temporal relationship between ACEs and different types of emotional distress (Widom et al., 2007). Additionally, the narrow age range (19-35 years) limits the generalizability of the findings. Although most emotional complaints develop during adolescence and early adulthood, the unique stressors associated with this developmental stage such as higher education pressures could interact with adverse experiences differently compared to other life stages (Arnett, 2000). Finally, this study did not correct for multiple testing, which increases the likelihood of Type I errors. Future research should incorporate corrections for multiple comparisons to ensure the robustness of the findings.

## Conclusion

This study demonstrated that emotional abuse in childhood is significantly associated with stress, and physical abuse in childhood is significantly associated with anxiety in adults. The findings suggest that emotional abuse predisposes individuals to chronic stress due to its pervasive and continuous nature, which disrupts emotion regulation and heightens stress responses. Physical abuse, on the other hand, appears to specifically increase the risk of anxiety, possibly due to the immediate and severe threats it poses to personal safety which can lead to persistent fear and hypervigilance of the victims. These results emphasize the need for targeted interventions that address the specific type of emotional distress experienced while taking into account their link to the respective ACEs. For instance, interventions for individuals with a history of emotional abuse should focus on developing healthy emotion regulation strategies to mitigate chronic stress. Similarly, interventions for those who experienced physical abuse should aim to reduce anxiety symptoms and address hypervigilance. Future research should explore mediating variables such as coping mechanisms, social support, and resilience that might influence the relationships between ACEs and emotional distress to expand on these findings. Future studies should also examine whether the identified associations hold true in more gender-balanced samples, and they should aim to explore potential gender-specific pathways in the development of emotional distress following ACEs. Additionally, longitudinal studies could aid the understanding of the temporal relationships between ACEs and emotional distress, including how these associations evolve over time and what factors might mitigate long-term negative outcomes. By addressing these areas, a more comprehensive understanding of how ACEs impact adult emotional distress can be achieved. This would assist the development of effective strategies to combat the negative long-term effects of ACEs, ultimately contributing to a reduction of emotional distress in the general population.

**References**

Antony, M. M., Bieling, P. J., Cox, B. J., Enns, M. W., & Swinson, R. P. (1998). Psychometric properties of the 42-item and 21-item versions of the Depression Anxiety Stress Scales in clinical groups and a community sample. *Psychological Assessment, 10*(2), 176-181. https://doi.org/10.1037/1040-3590.10.2.176

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55*(5), 469–480. https://doi.org/10.1037/0003-066X.55.5.469

Bartlett, J., & Sacks, V. (2019). Adverse childhood experiences are different than child trauma, and it's critical to understand why. ResearchGate. https://doi.org/10.13140/RG.2.2.18206.89921

Baxter, A. J., Scott, K. M., Vos, T., & Whiteford, H. A. (2013). Global prevalence of anxiety disorders: A systematic review and meta-regression. *Psychological Medicine, 43*(5), 897-910. https://doi.org/10.1017/S003329171200147X

Beardslee, W. R., Gladstone, T. R. G., & O'Connor, E. E. (2011). Transmission and prevention of mood disorders among children of affectively ill parents: A review. *Journal of the American Academy of Child & Adolescent Psychiatry, 50*(11), 1098-1109. https://doi.org/10.1016/j.jaac.2011.07.020

Bernstein, D. P., & Fink, L. (1998). *Childhood Trauma Questionnaire: A retrospective self-report questionnaire and manual*. The Psychological Corporation.

Bernstein, D. P., Fink, L., Handelsman, L., Foote, J., Lovejoy, M., Wenzel, K., Sapareto, E., & Ruggiero, J. (1994). Initial reliability and validity of a new retrospective measure of child abuse and neglect. *The American journal of psychiatry, 151*(8), 1132-1136. https://doi.org/10.1176/ajp.151.8.1132

Bernstein, D. P., Stein, J. A., Newcomb, M. D., Walker, E., Pogge, D., Ahluvalia, T., ... & Desmond, D. (2003). Development and validation of a brief screening version of the Childhood Trauma Questionnaire. *Child Abuse & Neglect, 27*(2), 169-190. https://doi.org/10.1016/S0145-2134(02)00541-0

Bifulco, A., Brown, G. W., & Adler, Z. (1991). Early sexual abuse and clinical depression in adult life. *The British Journal of Psychiatry, 159*(1), 115-122. https://doi.org/10.1192/bjp.159.1.115

Boudewyn, A. C., & Liem, J. H. (1995). Childhood sexual abuse as a precursor to depression and self-destructive behavior in adulthood. *Journal of traumatic stress, 8*(3), 445–459. https://doi.org/10.1007/BF02102969

Bourdieu, P. (1991). Language and Symbolic Power. Harvard University Press.

Bowlby, J. (1969). *Attachment and loss: Vol. 1. Attachment*. Basic Books.

Briere, J., & Elliott, D. M. (1996). Sexual abuse, family environment, and psychological symptoms: On the validity of statistical control. *Journal of Consulting and Clinical Psychology, 64*(5), 883-885. https://doi.org/10.1037/0022-006X.64.5.883

Centers for Disease Control and Prevention. (2019). *Preventing adverse childhood experiences: Leveraging the best available evidence*. National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

Chapman, D. P., Whitfield, C. L., Felitti, V. J., Dube, S. R., Edwards, V. J., & Anda, R. F. (2004). Adverse childhood experiences and the risk of depressive disorders in adulthood. *Journal of Affective Disorders, 82*(2), 217-225. https://doi.org/10.1016/j.jad.2003.12.013

Choi, N. G., Marti, C. N., Bruce, M. L., & Kunik, M. E. (2012). Relationship between depressive symptom severity and emergency department use among low-income, depressed homebound older adults aged 50 years and older. *BMC psychiatry, 12,* 233. https://doi.org/10.1186/1471-244X-12-233

Coles, J., Lee, A., Taft, A., Mazza, D., & Loxton, D. (2015). Childhood sexual abuse and its association with adult physical and mental health: Results from a national cohort of young Australian women. *Journal of Interpersonal Violence, 30*(11), 1929-1944. https://doi.org/10.1177/0886260514555270

Crittenden, P. M. (1997). Patterns of Attachment and Sexual Behavior: Risk of Dysfunctional Outcomes. In L. Atkinson & K. J. Zucker (Eds.), Attachment and Psychopathology (pp. 117-143). Guilford Press.

Crow, T., Cross, D., Powers, A., & Bradley, B. (2014). Emotion dysregulation as a mediator between childhood emotional abuse and current depression in a low-income African-American sample. *Child abuse & neglect, 38*(10), 1590–1598. https://doi.org/10.1016/j.chiabu.2014.05.015

De Calheiros Velozo, J., Vaessen, T., Pruessner, J., Van Diest, I., Claes, S., & Myin-Germeys, I. (2021). The repeated Montreal Imaging Stress Test (rMIST): Testing habituation, sensitization, and anticipation effects to repeated stress induction. *Psychoneuroendocrinology, 128,* 105217. https://doi.org/10.1016/j.psyneuen.2021.105217

Dong, M., Anda, R. F., Felitti, V. J., Dube, S. R., Williamson, D. F., Thompson, T. J., ... & Giles, W. H. (2004). The interrelatedness of multiple forms of childhood abuse, neglect, and household dysfunction. *Child Abuse & Neglect, 28*(7), 771-784. https://doi.org/10.1016/j.chiabu.2004.01.008

Dovran, A., Winje, D., Overland, S. N., Breivik, K., Arefjord, K., Dalsbø, A. S., Jentoft, M. B., Hansen, A. L., & Waage, L. (2013). Psychometric properties of the Norwegian version of the

Childhood Trauma Questionnaire in high-risk groups. *Scandinavian journal of psychology, 54*(4), 286–291. https://doi.org/10.1111/sjop.12052

Dye H. (2019). Is Emotional Abuse As Harmful as Physical and/or Sexual Abuse?. Journal of child & adolescent trauma, 13(4), 399–407. https://doi.org/10.1007/s40653-019-00292-y

Engel, G. L. (1977). The need for a new medical model: A challenge for biomedicine. *Science, 196*(4286), 129-136. https://doi.org/10.1126/science.847460

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., ... & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine, 14*(4), 245-258. https://doi.org/10.1016/S0749-3797(98)00017-8

Gallo, L. C., Roesch, S. C., Fortmann, A. L., Carnethon, M. R., Penedo, F. J., Perreira, K., Birnbaum-Weitzman, O., Wassertheil-Smoller, S., Castañeda, S. F., Talavera, G. A., Sotres-Alvarez, D., Daviglus, M. L., Schneiderman, N., & Isasi, C. R. (2014). Associations of chronic stress burden, perceived stress, and traumatic stress with cardiovascular disease prevalence and risk factors in the Hispanic Community Health Study/Study of Latinos Sociocultural Ancillary Study. *Psychosomatic medicine, 76*(6), 468–475. https://doi.org/10.1097/PSY.0000000000000069

Gardner, M., Gardner, M., Thomas, H., Thomas, H., & Erskine, H. (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

Gilbert, R., Widom, C. S., Browne, K., Fergusson, D., Webb, E., & Janson, S. (2009). Burden and consequences of child maltreatment in high-income countries. *The Lancet, 373*(9657), 68-81. https://doi.org/10.1016/S0140-6736(08)61706-7

Gross, J. J. (2002). Emotion regulation: Affective, cognitive, and social consequences. *Psychophysiology, 39*(3), 281-291. https://doi.org/10.1017/S0048577201393198

Gruhn, M., & Compas, B. (2020). Effects of maltreatment on coping and emotion regulation in childhood and adolescence: A meta-analytic review.. Child abuse & neglect, 103, 104446 . https://doi.org/10.1016/j.chiabu.2020.104446.

Grummitt, L. R., Kreski, N. T., Kim, S. G., Platt, J., Keyes, K. M., & McLaughlin, K. A. (2021). Association of childhood adversity with morbidity and mortality in US adults: A systematic review. *JAMA Pediatrics, 175*(12), 1269-1278. https://doi.org/10.1001/jamapediatrics.2021.2320

Heim, C., Newport, D. J., Mletzko, T., & Miller, A. H. (2008). The link between childhood trauma and depression: Insights from HPA axis studies in humans. *Psychoneuroendocrinology, 33*(6), 693-710. https://doi.org/10.1016/j.psyneuen.2008.03.008

Hughes, K., Bellis, M. A., Hardcastle, K. A., Sethi, D., Butchart, A., Mikton, C., Jones, L., & Dunne, M. P. (2017). The effect of multiple adverse childhood experiences on health: A systematic review and meta-analysis. *The Lancet Public Health, 2*(8), e356–e366. https://doi.org/10.1016/S2468-2667(17)30118-4

Johnson, J. G., Cohen, P., Gould, M. S., Kasen, S., Brown, J., & Brook, J. S. (2002). Childhood adversities, interpersonal difficulties, and risk for suicide attempts during late adolescence and early adulthood. *Archives of general psychiatry, 59*(8), 741–749. https://doi.org/10.1001/archpsyc.59.8.741

Karsten, J., Hartman, C. A., Smit, J. H., Zitman, F. G., Beekman, A. T., Cuijpers, P., & Penninx, B. W. (2011). Psychiatric history and subthreshold symptoms as predictors of the occurrence of depressive or anxiety disorder within 2 years. *The British Journal of Psychiatry, 198*(3), 206-212. https://doi.org/10.1192/bjp.bp.110.080572

Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry, 62*(6), 593-602. https://doi.org/10.1001/archpsyc.62.6.593

Kendall-Tackett, K. A. (2000). Physiological correlates of childhood abuse: Chronic hyperarousal in PTSD, depression, and irritable bowel syndrome. *Child Abuse & Neglect, 24*(6), 799-810. https://doi.org/10.1016/s0145-2134(00)00136-8

Korolevskaia, A., & Yampolskaya, S. (2022). The Consequences of Childhood Emotional Abuse: A Systematic Review and Content Analysis. Families in Society, 104, 167 - 178. https://doi.org/10.1177/10443894221124565.

Kutner, M., Nachtsheim, C., & Neter, J. (2004). *Applied linear regression models*. McGraw-Hill/Irwin. https://doi.org/10.2307/1269508

LeMoult, J., Humphreys, K. L., King, L. S., Colich, N. L., Price, A. N., Ordaz, S. J., ... & Gotlib, I. H. (2020). Meta-analysis: Exposure to early life stress and risk for depression in childhood and adolescence. *Journal of the American Academy of Child & Adolescent Psychiatry, 59*(7), 842-855. https://doi.org/10.1016/j.jaac.2019.10.011

Li, M., D'Arcy, C., & Meng, X. (2016). Maltreatment in childhood substantially increases the risk of adult depression and anxiety in prospective cohort studies: systematic review, meta-analysis,

and proportional attributable fractions. *Psychological medicine, 46*(4), 717–730. https://doi.org/10.1017/S0033291715002743

Lindert, J., von Ehrenstein, O. S., Grashow, R., Gal, G., Braehler, E., & Weisskopf, M. G. (2014). Sexual and physical abuse in childhood is associated with depression and anxiety over the life course: Systematic review and meta-analysis. *International Journal of Public Health, 59*(2), 359-372. https://doi.org/10.1007/s00038-013-0519-5

Liu, R. T., & Alloy, L. B. (2010). Stress generation in depression: A systematic review of the empirical literature and recommendations for future study. *Clinical Psychology Review, 30*(5), 582-593. https://doi.org/10.1016/j.cpr.2010.04.010

Loftus, E. F. (1997). Creating false memories. *Scientific American, 277*(3), 70-75. https://doi.org/10.1038/scientificamerican0997-70

Lovibond, S. H., & Lovibond, P. F. (1995). *Manual for the Depression Anxiety & Stress Scales* (2nd ed.). Psychology Foundation.

Maniglio, R. (2013). Child sexual abuse in the etiology of anxiety disorders. *Trauma, Violence, & Abuse, 14*(2), 96-112. https://doi.org/10.1177/1524838012470032

Maguire, S., Williams, B., Naughton, A., Cowley, L., Tempest, V., Mann, M., Teague, M., & Kemp, A. (2015). A systematic review of the emotional, behavioural and cognitive features exhibited by school-aged children experiencing neglect or emotional abuse.. Child: care, health and development, 41 5, 641-53 . https://doi.org/10.1111/cch.12227.

Mandelli, L., Petrelli, C., & Serretti, A. (2015). The role of specific early trauma in adult depression: A meta-analysis of published literature. Childhood trauma and adult depression. *European psychiatry : the journal of the Association of European Psychiatrists, 30*(6), 665–680. https://doi.org/10.1016/j.eurpsy.2015.04.007

McEwen, B. S. (1998). Stress, adaptation, and disease. Allostasis and allostatic load. *Annals of the New York Academy of Sciences, 840*, 33-44. https://doi.org/10.1111/j.1749-6632.1998.tb09546.x

McLaughlin, K. A., Weissman, D., & Bitrán, D. (2019). Childhood Adversity and Neural Development: A Systematic Review. *Annual review of developmental psychology, 1,* 277–312. https://doi.org/10.1146/annurev-devpsych-121318-084950

McLean, C. P., Asnaani, A., Litz, B. T., & Hofmann, S. G. (2011). Gender differences in anxiety disorders: Prevalence, course of illness, comorbidity and burden of illness. *Journal of Psychiatric Research, 45*(8), 1027-1035. https://doi.org/10.1016/j.jpsychires.2011.03.006

Nikulina, V., Widom, C. S., & Czaja, S. (2011). The role of childhood neglect and childhood poverty in predicting mental health, academic achievement, and crime in adulthood. *American*

*Journal of Community Psychology, 48*(3-4), 309-321. https://doi.org/10.1007/s10464-010-9385-y

Pirkola, S., Isometsä, E., Aro, H., Kestilä, L., Hämäläinen, J., Veijola, J., Kiviruusu, O., & Lönnqvist, J. (2005). Childhood adversities as risk factors for adult mental disorders: results from the Health 2000 study. *Social psychiatry and psychiatric epidemiology, 40*(10), 769–777. https://doi.org/10.1007/s00127-005-0950-x

Ross, N. D., Kaminski, P. L., & Herrington, R. (2019). From childhood emotional maltreatment to depressive symptoms in adulthood: The roles of self-compassion and shame. *Child abuse & neglect, 92,* 32–42. https://doi.org/10.1016/j.chiabu.2019.03.016

Salari, N., Hosseinian-Far, A., Jalali, R., Vaisi-Raygani, A., Rasoulpoor, S., Mohammadi, M., Rasoulpoor, S., & Khaledi-Paveh, B. (2020). Prevalence of stress, anxiety, depression among the general population during the COVID-19 pandemic: A systematic review and meta-analysis. *Globalization and Health, 16*(1), 57. https://doi.org/10.1186/s12992-020-00589-w

Salokangas, R. K. R., Schultze-Lutter, F., Schmidt, S. J., Pesonen, H., Luutonen, S., Patterson, P., Graf von Reventlow, H., Heinimaa, M., From, T., & Hietala, J. (2020). Childhood physical abuse and emotional neglect are specifically associated with adult mental disorders. *Journal of mental health (Abingdon, England), 29*(4), 376–384. https://doi.org/10.1080/09638237.2018.1521940

Shackman, J., Shackman, A., & Pollak, S. (2007). Physical abuse amplifies attention to threat and increases anxiety in children.. Emotion, 7 4, 838-52 . https://doi.org/10.1037/1528-3542.7.4.838.

Schreier, H. M., & Chen, E. (2013). Socioeconomic status and the health of youth: a multilevel, multidomain approach to conceptualizing pathways. *Psychological bulletin, 139*(3), 606–654. https://doi.org/10.1037/a0029416

Schilling, E. A., Aseltine, R. H., & Gore, S. (2007). Adverse childhood experiences and mental health in young adults: A longitudinal survey. *BMC Public Health, 7*(1), 30. https://doi.org/10.1186/1471-2458-7-30

Spinazzola, J., Hodgdon, H., Liang, L.-J., Layne, C., Pynoos, R., Briggs, E., Stolbach, B., & Kisiel, C. (2014). Unseen wounds: The contribution of psychological maltreatment to child and adolescent mental health and risk outcomes. *Psychological Trauma: Theory, Research, Practice, and Policy, 6*(S1), S18-S28. https://doi.org/10.1037/a0037766

ter Horst, J. P., de Kloet, E. R., Schächinger, H., & Oitzl, M. S. (2012). Relevance of stress and female sex hormones for emotion and cognition. *Cellular and molecular neurobiology, 32*(5), 725–735. https://doi.org/10.1007/s10571-011-9774-2

Teicher, M. H., Samson, J. A., Anderson, C. M., & Ohashi, K. (2016). The effects of childhood maltreatment on brain structure, function and connectivity. *Nature Reviews Neuroscience, 17*(10), 652–666. https://doi.org/10.1038/nrn.2016.111

Teicher, M. H., Samson, J. A., Polcari, A., & McGreenery, C. E. (2006). Sticks, stones, and hurtful words: Relative effects of various forms of childhood maltreatment. *The American Journal of Psychiatry, 163*(6), 993–1000. https://doi.org/10.1176/ajp.2006.163.6.993

van der Kolk, B. A. (2009). Entwicklungstrauma-Störung: Auf dem Weg zu einer sinnvollen Diagnostik für chronisch traumatisierte Kinder [Developmental trauma disorder: Towards a rational diagnosis for chronically traumatized children]. *Praxis der Kinderpsychologie und Kinderpsychiatrie, 58*(8), 572-586. https://doi.org/10.13109/prkk.2009.58.8.572

Vogel, D. L., Wade, N. G., & Hackler, A. H. (2007). Perceived public stigma and the willingness to seek counseling: The mediating roles of self-stigma and attitudes toward counseling. *Journal of Counseling Psychology, 54*(1), 40-50. https://doi.org/10.1037/0022-0167.54.1.40

Wegman, H. L., & Stetler, C. (2009). A meta-analytic review of the effects of childhood abuse on medical outcomes in adulthood. *Psychosomatic Medicine, 71*(8), 805-812. https://doi.org/10.1097/PSY.0b013e3181bb2b46

Weiss, E. L., Longhurst, J. G., & Mazure, C. M. (1999). Childhood sexual abuse as a risk factor for depression in women: Psychosocial and neurobiological correlates. *The American Journal of Psychiatry, 156*(6), 816-828. https://doi.org/10.1176/ajp.156.6.816

Widom, C. S., Czaja, S. J., & DuMont, K. A. (2018). Intergenerational transmission of child abuse and neglect: Real or detection bias? *Science, 347*(6229), 1480-1485. https://doi.org/10.1126/science.1259917

Widom, C. S., DuMont, K., & Czaja, S. J. (2007). A prospective investigation of major depressive disorder and comorbidity in abused and neglected children grown up. *Archives of General Psychiatry, 64*(1), 49–56. https://doi.org/10.1001/archpsyc.64.1.49

Williams, L. (1994). Recall of childhood trauma: a prospective study of women's memories of child sexual abuse.. Journal of consulting and clinical psychology, 62 6, 1167-76 . https://doi.org/10.1037/0022-006X.63.3.343.

World Health Organization. (2017). *Depression and other common mental disorders: Global health estimates*. Geneva: World Health Organization. Licence: CC BY-NC-SA 3.0 IGO.

Zamir, O., Szepsenwol, O., Englund, M. M., & Simpson, J. A. (2018). The role of dissociation in revictimization across the lifespan: A 32-year prospective study. *Child abuse & neglect, 79,* 144–153. https://doi.org/10.1016/j.chiabu.2018.02.001