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The Impact of Childhood Psychological Maltreatment on Mental Health Outcomes in Adulthood: a Systematic Review and Meta-Analysis

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Abstract

Childhood emotional abuse and emotional neglect are the least well-studied forms of childhood maltreatment due to challenges in their definition and in detection. However, the available evidence suggests associations with multiple adulthood mental health problems in clinical and non-clinical populations. This systematic review and meta-analysis (PROSPERO registration number CRD42020197833) explored the associations between childhood emotional abuse and neglect and a range of adulthood mental health problems based on systematic searches of eight databases. In total, 79 English and 11 Chinese studies met our inclusion criteria. Results suggested that childhood emotional abuse and neglect had positive associations with various adulthood mental health problems (d = 0.02-1.84), including depression, anxiety, substance abuse, suicidal ideation or attempts, personality disorders, eating disorders and other psychological symptoms in the general population and across different geographical regions. Further, findings suggested that compared with the non-clinical population, individuals in clinical populations were more likely to have experienced emotional abuse and neglect during childhood. The review highlights the need for more research on emotional abuse and emotional neglect. Further, future research should include more populations from non-western countries and non-college populations. They further underline the importance of addressing issues related to childhood emotional abuse/neglect experiences in the prevention and treatment of mental health issues in adulthood.

Keywords

Introduction

It is well established that different forms of childhood abuse are significantly associated with mental health problems and emotional, cognitive, behavioral, and social outcomes in childhood (Maguire et al., 2015) and that these difficulties frequently continue into adulthood (Hughes et al., 2017). A recent umbrella review, for example, suggested that the negative impacts of child sexual abuse included self-injury, somatization, schizophrenia, depression, anxiety, and psychosis (Hailes et al., 2019). Another systematic review suggested that long-term consequences of child physical abuse included substance abuse, suicidality, eating disorders, depression, and anxiety (Norman et al., 2012). Moody et al. (2018) reviewed the rates of childhood maltreatment worldwide in females and males based on self-reported measurements. They found that the prevalence of physical abuse ranges from 5.0% to 40.2%; sexual abuse ranges from 2.5% to 29.8%; emotional abuse ranges from 6.5% to 53.8%, and neglect (both physical and emotional) ranges from 1.6% to 67.3%. The large variation in the estimate of self-reported childhood maltreatment likely reflects the fact that the review covered different regions such as Africa, Asia, Australia, Europe, and South and North America, combined with possible recall and self-report biases (Moody et al., 2018). The reason of large variation may be because different regions have different definitions and boundaries regarding childhood maltreatment, as well as true differences in their prevalence rates. Given the prevalence and evidence for the negative outcomes of childhood maltreatment there is a strong need for studies that can illuminate the full range and severity of its impacts. However, not all forms of childhood maltreatment have received equal attention in research. In particular, research exploring psychological maltreatment lags behind that of other forms of maltreatment. Psychological maltreatment can be sub-divided into emotional abuse (sometimes termed 'psychological abuse') and emotional neglect (sometimes termed 'psychological neglect') (McGee & Wolfe, 1991).

The term "emotional abuse" refers to hostile acts of commission by the caregivers toward the child (McGee & Wolfe, 1991) (for example behaviors see Table 1 below). While it often occurs alongside other forms of abuse, it can also be inflicted on its own (Baker & Festinger, 2011). Previous literature has suggested negative impacts of childhood emotional abuse (CEA) on adult mental health. For instance, in one study, CEA was significantly associated with major depression, anxiety disorder and substance abuse disorder in a nationally representative adult sample from the USA ($M_{Age} = 48.1$ years) (Taillieu et al., 2016).

"Emotional neglect" refers to a caregiver's acts of omission, which may include failing to provide necessary care for children (Dubowitz, 2013) (for example behaviors see Table 1 below). Unlike CEA, childhood emotional neglect (CEN) may be unintentional, and caregivers are sometimes unaware that they are emotionally neglecting their child (Iwaniec, 2006). Research by Salokangas et al. (2019) suggested that CEA was significantly associated with depression, anxiety, and substance abuse. Finally, CEA and CEN may occur in different forms, which may be verbal or non-verbal, with intention or without intention, and active or passive.

Taken together, psychological maltreatment refers to a repeated pattern of caregivers' behaviors that are likely to be interpreted by a child as being unwanted or unloved, and that undermine the child's development and socialization (Glaser, 2002). Psychological maltreatment describes a relationship between the parents and child rather than an event or series of repeated events occurring within the parent-child relationship, or the parent-child interactions are actually or potentially harmful by causing impairments in child's psychological/emotional health and development. Further, psychological maltreatment includes both omission and commission, and without physical contact (Glaser, 2002).

In line with research on other forms of maltreatment, psychological maltreatment has been shown to negatively affect children's social, cognitive, emotional, and/or physical development (Hibbard et al., 2012), with difficulties continuing into adulthood (Hughes et al.,

2017; Grummit et al., 2021). Indeed, previous evidence suggests that the negative impacts of psychological maltreatment during childhood may manifest in numerous ways, such as impaired emotional, cognitive, or social development, and lead to mental health outcomes such as depression (Christ et al., 2019), suicide attempts (Falgares et al., 2018), emotional dysregulation (Burns, Jackson, & Harding, 2010), or personality disorder (Goodman et al., 2014) in the general population. Moreover, several studies have suggested links between childhood psychological maltreatment and mental health problems in clinical populations (Xie et al., 2018), for instance, those with eating disorders (Kent et al., 1999), alcohol dependency (Evren et al., 2011), or depressive disorders (Neumman, 2017). Besides this, mental health problems resulting from childhood psychological maltreatment can have multiple secondary effects in terms of social impairment (Armijo, 2017), lost productivity (Doran & Kinchin, 2019) and increased treatment/support needs (Dixon, Holoshitz, & Nossel, 2016). However, no previous research has provided a systematic overview of associations between childhood psychological maltreatment and adult mental health.

There have been numerous systematic reviews and meta-analyses on the associations between childhood abuse and negative consequences, but none have focused exclusively on psychological maltreatment and adult mental health. For instance, Norman et al. (2012) found that CEA, and neglect in the general population were associated with depression, drug use, suicide attempts, sexually transmitted infection, and risky sexual behaviors. Maguire et al. (2015) demonstrated the social, emotional, and behavioral features in children who experienced neglect or CEA. The results showed that these children were more likely to exhibit poor academic achievement, were more prone to suicidality and low self-esteem and were less likely to develop friendships. Gardner, Thomas, and Erskine (2019) demonstrated that child abuse (i.e., sexual, physical, and emotional abuse and neglect) was associated with depressive disorder. Green, Browne, and Chou (2019) found that individuals with psychotic illness who

experienced child abuse (i.e., sexual, sexual, physical, and emotional abuse and neglect) were at approximately twice the risk of perpetrating violence than individuals who did not experience child abuse. Angelakis, Austin and Goodling (2020) found that core types of childhood abuse (physical, sexual, and emotional abuse and neglect) are associated with a higher rate of suicidal behaviors in young people. In addition, Angelakis et al. (2020) also explored the association between childhood abuse and suicide attempt in prisoners. They found that childhood abuse (i.e., sexual, physical, and emotional abuse and physical and emotional neglect) was strongly associated with suicide attempts in this population.

As such, numerous reviews have explored the associations between different forms of child abuse and mental health in children, young adults, general populations, and the prisoner population. However, those reviews are limited with respect to identifying the effects of psychological maltreatment. For instance, Maguire et al. (2015) looked at neglect as a whole instead of only focusing on emotional neglect. Norman et al. (2012) examined the effects of CEA but only focused on a limited set of psychosocial outcomes. Furthermore, given the rate at which research is published in this area, an updated review of the links between CEA and mental health outcomes capturing research published in the decade since the searches of the Norman et al. (2012) systematic review is merited. Moreover, some existing literature has proposed that psychological maltreatment has a greater deleterious effect on mental health outcomes than physical abuse. For instance, Claussen and Crittenden (1991) found that psychological maltreatment was more strongly predicted subsequence impairment than physical abuse. This suggests the needs for systematic reviews that examine the links between psychological maltreatment and adult mental health.

To the best of the authors' knowledge – to date, no research has been carried out with a specific focus on synthesizing current evidence on the relations between childhood

psychological maltreatment by caregivers (i.e., parents or another caregiving adult living in the same household) and adult mental health. According to the Office for National Statistics (2016), the perpetrators of psychological maltreatment are most likely to be the primary female caregivers (40%) (i.e., biological/step/adoptive father) and the primary male caregivers (35%) (i.e., biological/step/adoptive mother). Indeed, in the nuclear family model, parents are among the caregivers who spend most of the time with their children and are the primary disciplinarians. They tend to be the most common perpetrators of most types of child maltreatment (Devries et al., 2018). Therefore, a systematic review and meta-analysis of associations are needed to clarify how psychological maltreatment perpetrated by an adult living in the same household during childhood is associated with different mental health outcomes in adulthood.

The goal of the current study was to address this gap and provide an improved understanding of the consistency and strength of the link between childhood psychological maltreatment and a range of adult mental health outcomes at both the clinical and sub-clinical levels. The current systematic review and meta-analyses can provide more precise estimates of the associations with various mental health outcomes than have been provided by any primary study to date. This is important because it provides a clearer picture of which mental health issues are potentially most affected by psychological maltreatment, informing prevention and intervention that is more tailored to the anticipated psychological impacts of psychological maltreatment. It also allows us to examine the factors that moderate the magnitude of these associations and to evaluate whether the field is affected by publication bias. By including studies both published in English and Chinese, we can also start exploring the question of any potential differences in the links between childhood maltreatment and mental health outcomes across country and cultural contexts. Previous research has suggested that there are potential cultural differences between Western contexts and China in accepted and expected parenting

behaviors (Xiao et al., 2022) and this may have implications for the associations between psychological maltreatment and mental health outcomes. In addition, previous reviews on any maltreatment have only included English speaking studies which could have some limits. Hence, we here undertake a systematic review and meta-analyses of the relations between psychological maltreatment and a range of mental health outcomes in studies published in both Chinese and English. There are four primary review questions:

1. What are the long-term associations of childhood psychological maltreatment (CEA and CEN) on adult mental health.

2. What are the unique effects of childhood psychological maltreatment (CEA and CEN) by caregivers on adult mental health after adjusting for other forms of abuse and relevant confounders?

3. How do study-level moderators such as years of publication, study methodological quality, and study location affect these associations?

4. Are there differences in these associations between English-language and Chinese-language papers?

Method

This review is reported following the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) (Pages et al., 2021). The protocol for this systematic review was registered in the International Prospective Register of Systematic Reviews (PROSPERO) with registration number CRD42020197833 and published in the journal *Systematic Reviews* (Xiao et al., 2021).

Search Strategy

The selection of search terms was based on the keywords used in the previous literature examining the impact of childhood psychological maltreatment on adult mental health problems. Table 2 provides an overview of the search terms. The Boolean operators 'OR' and 'AND' were used to combine terms with specific syntax adapted for individual databases (an example is provided in Supplementary Material 1). As well as linking mental health and maltreatment terms together, the maltreatment terms were combined with child* and the mental health terms with adult* in order to link the concepts to the relevant developmental stages. We searched the Web of Science, Medline, PubMed, PsycINFO, Applied Social Science Index and Abstract, ERIC and EMBASE databases and ZhiWang for literature written in Chinese. The exclusion of studies other than those published in English may have potential biases because they do not represent all of the evidence (Morrison et al., 2012). Therefore, studies written in both English and Chinese will be reviewed, reflecting the language capabilities of the team.

Eligibility Criteria

We only included studies that met the following criteria: a) participants aged over 18 at the assessment of the mental health problem, b) studies that measured CEA and/or CEN before age 18 using prospective longitudinal and retrospective methods, using self-or-other-reported questionnaires, interviews, or police or social work records, c) studies that measured mental health problems (standard diagnoses as listed in the DSM-V or ICD-10 or using mental health scores based on validated measures) using self-or-other-reported questionnaires or clinical interviews, d) studies that only assessed childhood psychological maltreatment, CEA and/or CEN or studies that assessed both CEA and CEN and other types of abuse (e.g., physical or sexual), e) studies where the perpetrators were the primary caregivers or an adult living in the same household, f) studies published in English or Chinese language.

We excluded the following types of studies: 1) any book chapters, case studies, letters, opinions, and editorials that did not present new data, b) qualitative investigations, c) review papers (e.g., narrative reviews, systematic reviews, or meta-analysis), d) studies that did not provide an analysis of CEA/CEN linked to different mental health outcomes separately, e) studies that focus on non-parental others (e.g., in institutional care) or where data from primary caregivers or adults in the household could not be disaggregated from the data on abuse perpetrated by others, f) studies where different types of abuse were combined and not separately reported so that it was not possible to obtain an effect for CEA/CEN, g) studies where the outcomes were physical rather than mental conditions.

Study Selection

First, the titles and abstracts were assessed, followed by full-text screening conducted on those that met inclusion criteria. All articles identified in the searches were screened by two reviewers, co-authors of this paper. Reviewer one (ZX) and reviewer two (MMB) screened the English language articles, while reviewer one and reviewer three (WSC) screened the Chinese articles. All reviewers hold at least masters-level degrees in Psychology and have specialist knowledge of mental health. In addition, reviewers 1 and 3 have specialist knowledge of the topic of abuse. Disagreements between the reviewers were resolved by a fourth reviewer (ALM) who holds a doctorate in Psychology and has specialist knowledge of the topics of abuse and mental health. The reviewers then independently conducted data extraction and studies' methodological quality assessment. It was possible to arrive at consensus for all studies, with 10 English language studies and 8 Chinese language studies first requiring discussion between reviewers.

Data Extraction

Data from each selected study were extracted and recorded in the form presented in Supplementary Materials. The form has fields *"Population Data"* that include information regarding 1) authors' names, 2) publication year, 3) sample size, 4) location, 5) sample population, 6) sample population demographics, and 7) setting. *"Study Data"* includes information regarding 1) study methodology, 2) types of abuse assessed, 3) measurement of CEA/CEN, 4) measurement of mental health outcomes, 5) perpetrator of maltreatment, and 6) age at exposure to maltreatment. *"Result"* includes information regarding 1) study findings, 2) odds ratio or adjusted odds ratio if available, and 3) other statistical information as relevant.

Assessment of Methodological Quality

Classification of risk of bias was based on the Newcastle-Ottawa Quality Assessment Scale (see Supplementary Material 10, 11, & 12) was used to assess both case-control studies (e.g., non-longitudinal studies) and cohort studies (e.g., longitudinal studies) (Well et al., 2017). Three main domains with eight sub-domains were included in this assessment: selection (adequateness of case definition, representativeness of the cases, selection of controls and definition of controls), comparability (comparability of cases and controls based on the design or analysis) and exposure (ascertainment of exposure, same method of ascertainment for cases and control and non-response rate). Each study was awarded stars (i.e., if the study met the criteria for sub-domains, a star would be awarded.) from zero to eight based on these criteria, with more stars representing a lower risk of bias.

Data synthesis and analysis

We used a narrative synthesis to analyze the main characteristics of each study (i.e., study location, sample size and characteristic, abuse types, abuse measurement, mental health measurement, perpetrators, and study effect size). Studies were organized based on mental

health outcomes and population types (i.e., personality disorder, eating disorder, psychological symptoms, suicidal ideation, depression and anxiety, substance abuse and clinical population studies).

Due to the restricted number of the reported effect sizes in other areas, only the effects related to three mental health problems/populations (i.e., suicidal ideation, depression and anxiety and clinical population) were meta-analyzed. A random-effects model was used as it was assumed that effect sizes were sampled from a heterogeneous population, i.e., studies were expected to represent fairly substantial differences in method (i.e., types of participants, measurements) and were thus not anticipated to reflect a single underlying effect size. The 'metafor' package for R statistical software was used to carry out the meta-analyses (Viechtbauer, 2010). Due to different statistical information provided in the included papers, we extracted all "r" statistics and converted them into Cohen's d. If a paper did not provide "r", we extracted the odds ratio and converted it to "r" in an additional step.

Study heterogeneity was assessed qualitatively by examining the characteristics of the studies. Statistical heterogeneity was assessed by calculating I^2. Publication bias was explored using a funnel plot (Higgins & Green, 2011). A trim and fill method (Duval, 2006) was used to statistically test for its potential impacts. A moderator analysis assessed study-level moderators such as year of publication, quality of the study, and location of the study.

Overview of Studies

Based on the English literature search, 2,389 studies were found. Of these, 23 were duplicates, leaving 2,366 studies (see Figure 1). Screening by title left 379 and after screening the abstract, 193 studies remained eligible for full-text screening. In the full-text screening phase studies were excluded because: 1) mental health outcomes were assessed before the age of 18 (n = 48);

2) psychological maltreatment was not analyzed separately (n = 47); 3) abuse was not perpetrated by primary caregivers (n = 4); and 4) there was no mental health outcome variable (n = 15). In total, 79 studies were included in the systematic review.

Based on the Chinese literature search, 571 studies were found. Of these, 102 were duplicates, leaving 469 (see Figure 1). After screening by title, 88 studies remained, and 11 studies were eligible for the full-text screening after abstract screening. Studies were excluded in the full-text screening phase because 1) mental health outcomes were assessed before the age of 18 (n = 5); 2) CEA and CEN were not measured (n = 2); and 3) mental health outcome variables were not assessed (n = 4). In total, 11 Chinese studies were included in the systematic review.

For the English-language studies (n = 79; 38 studies measured both CEA and CEN, 30 studies measured CEA and 1 study measured CEN only), Supplementary Material 2 shows the main characteristics of all the included studies organized by theme. The 79 studies were published between 1997 and 2020. Fourteen studies conducted longitudinal research or used secondary datasets; four studies (Afifi et al., 2012; Harford et al., 2014; Taillieu et al., 2016; Waxman et al., 2014) used the same secondary dataset for different outcomes. The rest of the studies (n = 65) used a case-control study design and were cross-sectional studies. The sample size of the studies ranged from 75 to 34,653. In studies based in non-clinical settings (n = 48), most were conducted in the general population (n = 21) or in college student populations (n = 11). In the clinical settings (n = 23), studies were conducted relating to various mental health problems in patient populations (i.e., depression, bipolar disorder, schizophrenia, mood disorder, substance abuse disorder). Of these, 13 studies compared non-clinical and clinical populations. Four studies included only females (Christ et al., 2019; Haferkamp et al., 2015; Kent et al., 1997; Thompson et al., 2000), and two studies only included male participants (Can

et al., 2019; Evren et al., 2016). Most of the studies (n = 57) measured all abuse types (physical abuse, physical neglect, sexual abuse, EA and EN), and most (n = 59) used the Childhood Trauma Questionnaire (CTQ) or Childhood Trauma Questionnaire-Short Form (CTQ-SF). These two questionnaires measure traumatic incidents including physical abuse, sexual abuse, EA, EN, and physical neglect). The included studies used various measures for mental health outcomes. These ranged from general mental health measurements (e.g., Centre for Epidemiological Studies Depression Scale – CES-D); to those that corresponded with the DSM-IV classification (e.g., Structured Clinical Interview for DSM-IV Axis I Disorder); few developed their own questions. The perpetrators of the CEA or CEN were mainly primary caregivers (n = 65); some (n = 13) were parents or adults living in the same household, while only one study examined multiple perpetrators (Kruger et al., 2017).

For the literature written in Chinese (n = 11), Supplementary Material 3 provides the main characteristics of the included studies. Meta-analysis was not possible due to the small number of studies in each outcome group. The 11 studies were published between 2001 and 2018. All the studies used a case-control study design. The sample size of the studies ranged from 110 to 1,502; however, most of the studies (n = 9) were of college students. The measures were well-established in the Chinese context with acceptable internal consistency ($\alpha > .70$). All studies used measurements that assessed CEA and CEN (i.e., Child Psychological Abuse and Neglect Scale, Childhood Emotional Abuse Scale, Parent-Child Conflict Tactics Scales). The perpetrators of the maltreatment were all parents or caregivers. Measures for mental health outcomes covered various mental health problems, for instance, depression (i.e., Self-Rating Depression Scale, Centre for Epidemiologic Studies Depression Scale), personality disorder (i.e., Symptoms Checklist 90), and suicidal ideation (i.e., Positive and Negative Suicide Ideation).

Supplementary Materials 4, 5, 6 and Supplementary Materials 7, 8, 9 provide the available information on the extraction forms mentioned above for English and Chinese studies, respectively.

Results

CEA and CEN and Adult Mental Health Outcomes in the English Language Publications

CEA and CEN and Adult Personality Disorder

Across six studies (three in a clinical setting), CEA and CEN were risk factors for the development of Personality Disorders (PD) later in life, even when controlling for other types of abuse, basic demographic characteristics, parental psychopathology, and comorbid PDs. Specifically, Waxman et al. (2014) found that CEN predicted avoidant, paranoid and schizoid PD and CEA predicted borderline, narcissistic and schizotypal PD. Goodman et al. (2014) reported that both CEA and CEN were associated with borderline personality disorder symptoms. A more recent study by Fung, Chung, and Ross (2020) also had similar results. Bernstein et al. (1998) explored the associations in substance abuse patients and found that CEA and CEN predicted personality pathology (all clusters). Cohen et al. (2013) and Cohen et al. (2014) studied nonpsychotic psychiatric patients and found CEA predicted Cluster C (DSM-5, 2013) (Obsessive-Compulsive, Passive-aggressive, and Self-Defeating) personality disorder traits. The effect size (Cohen's d) of these five studies for CEA ranged from 0.16 to 0.95; and for CEN, ranged from 0.16 to 0.59.

CEA and Adult Eating Disorder

In one study (non-clinical setting), CEA was the only form of abuse that predicted unhealthy eating attitudes in adulthood when controlling for other types of abuse. Age of exposure to CEA did not moderate this association (Kent et al., 1997).

CEA and CEN and Adult Suicidal Ideation/Attempts and Non-Suicidal Self-Injury Behaviors

Across 11 studies (all non-clinical settings), there were positive associations between CEA/CEN and suicidal ideation/attempts, even when adjusting for gender, age, race, or marital status (Harford et al., 2014). Gibb et al. (2001) conducted a 2.5-year follow-up study and found the associations between suicidal ideation and greater CEN in childhood remained significant. Briere et al. (2016) reported that CEA was associated with both recent suicide attempts and recent suicidal ideation without attempts. Similarly, Harford et al. (2014), Thompson et al. (2000) and Saracli et al. (2016) reported the associations between CEN and suicidal ideation and attempts, with CEN was significantly related to suicidality. However, only one study (Smith et al., 2018) reported a non-significant link between CEA and suicidality. Besides suicidal ideation or attempts, Buser and Hackney (2012) found CEA to be significantly related to non-suicidal self-injury behaviors. The effect sizes (Cohen's d) in these 11 studies for CEA ranged from 0.11 to 1.28 and for CEN ranged from 0.30 to 1.28.

CEA and CEN and Adult Substance Abuse

Across nine studies (one clinical setting) individuals who experienced CEA were more likely than individuals who did not experience CEA to engage in different kinds of substance abuse, for instance, alcohol (Crouch et al., 2018; Elliott et al., 2014; Mandavia et al., 2016; Yuan et al., 2014), cannabis (Aas et al., 2014), heroin (Afifi et al., 2012) or nicotine (Elliott et al., 2014) abuse. Even when adjusting for demographic factors (age group, race/ethnicity, educational attainment, income, and rurality), most studies still found significant associations. Aas et al.

(2014) found that cannabis abuse was significantly associated with CEA in bipolar disorder. However, Yuan et al. (2014) only found associations in females but not in males. Contrary to the above, one study (Florez et al., 2020) found that CEA was not directly associated with alcohol misuse. Only two studies (Afifi et al., 2012; Elliott et al., 2014) explored the associations between CEN and substance abuse and reported significant findings. The effect size (Cohen's d) of these nine studies for CEA ranged from 0.30 to 0.85 and for CEN ranged from 0.15 to 0.66.

CEA and CEN and Adult Depression and Anxiety

Across 14 studies (all non-clinical settings), there were significant associations between CEA or CEN and adult depression and anxiety. Some studies explored the relations between CEN and adult depression and anxiety and found these associations were positive and significant (Balsam et al., 2010; Brown et al., 2016; Crow et al., 2014; Gong & Chan, 2018; Novelo et al., 2018; Sunley et al., 2020; Wright, Crawford, & Del Castillo, 2009). Many of the included studies examined mediators such as behavioral activation (O'Mahen et al., 2015), self-compassion and gratitude (Wu et al., 2018), or moderators such as emotional dysregulation (Crow et al., 2014). The effect size (Cohen's d) of these 14 studies for CEA ranged from 0.56 to 1.40; for CEN ranged from 0.01 to 0.70.

CEA and CEN and Other Psychological Symptoms

Across seven studies (all non-clinical settings), there were positive relations between CEA and CEN and other mental health issues defined and measured with different levels of specificity. The included studies assessed various mental health issues, for instance, auditory and visual hallucination (Abajobir et al., 2017), internalizing problems (van Duin et al., 2019), and general psychological symptoms (Dias et al., 2015; Fung et al., 2020; OLaoideet al., 2018; Sheikh,

Abelsen, & Olsen, 2016; Taillieu et al., 2016). Taillieu et al. (2016) found that experiencing CEA and CEN increased the likelihood of mental health problems - CEN was associated with increased odds (aOR = 1.3) of depression, dysthymia, and social phobia, while CEA was associated with increased odds (aOR = 1.6) for lifetime diagnosis for borderline personality disorder. Fung et al. (2020) found when controlling for other types of abuse, individuals who experienced both emotional abuse and emotional neglect scored the highest for mental health problems (e.g., depression, anxiety, borderline personality disorder, PTSD, and somatoform dissociation), while individuals who experienced only emotional abuse or emotional neglect scored higher than individuals who had not experienced abuse. The effect size (Cohen's d) of these seven studies for CEA ranged from 0.032 to 0.554 and for CEN ranged from 0.101 to 0.787.

CEA and CEN reported in Clinical Populations

Participants in a total of 32 retrospective studies based on adult clinical populations from a range of countries (e.g., USA, UK, China, Turkey, France, Italy, Germany, Brazil, Istanbul, Korea, Norway, Poland, Iran, South Africa, Geneva, New Zealand), reported having experienced more CEA and CEN during their childhood compared to non-clinical populations. Except for the Bruni et al. (2018) study, which only measured CEA, all other studies measured both CEA and CEN. All mental health problems were diagnosed based on the DSM-IV or ICD-10 classification. Mental health problems included eating disorders (Amianto et al., 2018), PTSD (Evren et al., 2010; Evren et al., 2016; Haferkamp et al., 2015), major depression disorder (de Mattos Souza et al., 2016), bipolar disorder (Janiri et al., 2015; Etain et al., 2010; Fowke, Ross, & Ashcroft, 2012; Hariri et al., 2015; Kefeli et al., 2018; Ostefjells et al., 2017; Pavlova et al., 2015; Russo et al., 2013; Watson et al., 2014), alcohol use disorder (Can et al., 2019; Potthast et al., 2014), depression (Arnow et al., 2011; Huh et al., 2017; Kounou et al.,

2013; Neumann, 2017; Schulz et al., 2017), personality disorder (Zhang et al., 2013), mood disorder (Ventimiglia et al., 2020), schizophrenia (Bruni et al., 2018), substance abuse (Khosravani et al., 2019; Mirhashem et al., 2017; Price, Connor, & Allen, 2017) and other psychological symptoms (Kruger et al., 2017; Sar, Islam, & Ozturk, 2009; Xie et al., 2018). None of the studies explored gender differences, except Russo et al. (2013), who found no gender differences in childhood CEA in bipolar disorder patients. Amianto et al. (2018) found that patients with eating disorders experienced more CEA and CEN than the healthy control group. Can et al. (2019) and Potthast et al. (2014) found that CEA scores were higher in alcohol use disorder patients. Haferkamp et al. (2015) suggested that women who had PTSD scored higher in CEA when controlling for other types of abuse. These findings suggested that clinical populations have a higher prevalence of CEA and CEN than non-clinical populations. The effect size (Cohen's d) of these 32 studies for CEA ranged from 0.02 to 1.84; for CEN, they ranged from 0.08 to 0.73.

CEA and CEN and Adult Mental Health Outcomes in the Chinese Language Publications

Across 11 studies (one clinical setting), CEA, CEN, or psychological maltreatment was associated with various mental health outcomes in the Chinese population, mainly undergraduates. Only one study (Zhang et al., 2018) explored the differences between obsessive-compulsive disorder (OCD) patients and the general population and suggested that people with an OCD diagnosis were more likely to report having experienced psychological abuse during childhood. The retrospective studies drawing their samples from community settings showed significant correlations between childhood psychological maltreatment and self-injury behaviors (Dai et al., 2016; Zhang et al., 2017), suicidal ideation (Yang et al., 2019), aggression (Han et al., 2018), depression and anxiety (Chang & Wang, 2008; Deng et al., 2018; Guo, 2018; Wang & Liu, 2017; Zeng, 2016) and general mental health (Xie et al., 2008). Apart

from these associations, some studies also explored the moderators and mediators of these links. For instance, Deng et al. (2018) found resilience played an important mediating role between college students' depression and childhood CEA; those students who experienced CEA and had higher resilience skills could reduce the chance of suffering depression symptoms. Wang and Liu (2017) suggested that cognitive flexibility played a mediating role in adult depression and CEA. Yang et al. (2019) found that rumination was a significant mediator between adult suicidal ideation and CEA. One study (Xie et al., 2008) examined gender differences in the occurrence rate of CEA and found that males had higher occurrence rates on both CEA and CEN than females.

Meta-analyses

A random-effect model (restricted maximum-likelihood estimator: REML) was used to carry out each meta-analysis.

Suicidal Ideation/Attempts. Based on nine studies (included studies are present in Table 3) that examined suicidal ideation/attempts as an adult outcome of CEA. The pooled estimate for the associations between CEA and adult suicidal ideation was 0.479 (95%CI [0.156, 0.803], p < .001, tau^2 = 0.030, H^2 = 1.14) suggesting a medium effect size (Figure 2). The heterogeneity test suggested that the variance between the included studies was not significant (Q (8) = 8.186, p = .416, I^2 = 11.94%). Using the trim and fill method (Duval, 2006) to test potential publication bias, it was estimated that five studies were potentially missing (SE = 1.796). After adjustment for potential publication bias, the pooled estimated were 0.233 (95%CI [-0.025, 0.490], p = 0.077). The test for heterogeneity suggested Q (13) = 18.844, p = .128, I^2 = 0, suggesting that the effect size was smaller after adjustment. Funnel plots are provided in Figure 3.

Depression and Anxiety. Based on the eight included studies (see Table 3), the pooled estimates for the associations between CEA and adult depression and anxiety were 0.36 (95%CI [0.036, 0.687], p = .030, tau^2 = 0.053, H^2 = 1.33) suggesting a small to medium effect size (Figure 4). The heterogeneity test suggested that the variance between the included studies was not significant (Q (7) = 9.214, p = .238, I^2 = 24.82%), demonstrating that the studies were comparable. Using the trim and fill method (Duval, 2006), it was estimated five studies were potentially missing (SE = 1.648). After adjusting for potential bias, the pooled estimates were 0.05 (95%CI [-0.113, 0.221], p = .524). The test for heterogeneity was Q (12) = 18.924, p = .090, I^2 = 0 suggesting that the effect size was smaller after adjusting potential publication bias. Funnel plots are shown in Figure 5.

Clinical Population. Based on the 15 included studies (see Table 3), the pooled estimates for the associations between CEA and having a clinical diagnosis of a mental health disorder were 0.2 (95%CI [0.035, 0.365], p = .018, tau^2 = 0.013, H^2 = 1.16), suggesting a small to medium effect size. The heterogeneity test suggested that the variances between the included studies were not significant (Q (14) = 15.952, p = .316, I^2 = 13.44%). Figure 6 depicts the forest plot of the included studies. Using the trim and fill method (Duval 2006), it was estimated that seven studies were potentially missing (SE = 2.228). After adjusting for the potential bias, the pooled estimates were 0.07 (95%CI [-0.049, 0.202], p = .23). The test for heterogeneity was Q (21) = 31.038, p = .073, I^2 = 0, suggesting that effect size was smaller after adjusting the potential publication bias. Funnel plots are shown in Figure 7.

Methodological Quality Assessment

The Newcastle-Ottawa Quality Assessment Scale (Well et al., 2017) was used to assess the quality (range = 0-8) of selected studies. For English studies, there were 61 case-control studies (M = 5.96, range = 4-8) (see Supplementary Material 10) and 14 cohort studies (M = 6.07,

range = 4-8) (see Supplementary Material 11). For the Chinese literature, there were 11 case-control studies (M = 3.90, range = 3-5) (see Supplementary Material 12).

Moderator analysis

Moderation analysis was conducted to evaluate if study-level moderators (year of publication, study quality and study location) affected the associations between EA and adult mental health. We conducted a moderation analysis for suicidal ideation, depression, and anxiety and the clinical population studies. The results suggested that none of these moderators significantly impacted these associations (see Table 4).

Key findings are presented in Table 5.

Discussion

Findings from 79 English and 11 Chinese papers using data from 132,082 participants over 18 years old suggested that CEA and CEN are associated with poorer adult mental health. Our goals were to: 1) review and synthesize evidence to illuminate the long-term effects of childhood psychological maltreatment on mental health; 2) assess whether there were unique effects of these forms of abuse after adjusting for others; 3) explore whether study-level moderators such as year of publication, study methodological quality, and study location affect these associations; and 4) explore whether there are differences in these associations between English- and Chinese-language papers.

Our findings suggested that CEA and CEN are associated with mental health outcomes in adulthood in both English- and Chinese- language papers, including the outcomes of suicidal ideation, depression, anxiety, eating disorders, personality disorders, and other psychological symptoms. Similarly, those belonging to clinical populations defined by adulthood mental

health issues (e.g., major depression, bipolar disorder, personality disorder, schizophrenia, etc.) were shown to have experienced more CEA and CEN. We conducted meta-analyses for the mental health outcomes with sufficient studies, namely, suicidal ideation, depression, and anxiety. The results showed that the pooled estimates suggested a small to medium effect in the expected direction. Moreover, the current review also found that the effects of CEA and CEN remained significant after adjusting for other forms of abuse.

We also found that the results from the included studies were not affected by the region where the studies were conducted. We also found in our descriptive comparison that the results in English- and Chinese-language papers were consistent. That is, except for the different measurements and participants involved in English- and Chinese- languages, we found no differences between English and Chinese literature in the association between CEA and/or CEN and poorer adult mental health. Taken together, these findings suggest that the impacts of CEA and/or CEN on adult mental health are likely to be universal. Finally, the quality of the studies did not moderate the results of the included studies.

Completeness and Applicability of Evidence

This is the first systematic review focused on the long-term mental health correlation of experiencing CEN and CEA perpetrated by caregivers (parents or adults living in the same household) as victims. Our findings are consistent with previous systematic reviews that have focused on associations between other types of abuse and adult mental health (e.g., Norman et al., 2012; Leeb et al., 2011). For instance, Norman et al. (2012) reported an association between different forms of abuse (physical abuse, EA, and neglect) and various health consequences (e.g., drug use, suicide attempts, depression disorder, risky sexual behaviors); however, unlike in the present review, CEN was only considered as part of the broader concept of child neglect. Relative to this study, our findings provide updated results reflecting studies published in the

last decade since the publication of that review, and also report additional associations between CEA and CEN and the outcomes of personality disorders, eating disorders, depression, and anxiety, suicidal ideation, self-injury, substance abuse, and other psychological symptoms. We also found that clinical populations reported more CEA and CEN in their childhood. Another recent systematic review (Petruccelli, Davis, & Berman, 2019) explored different forms of childhood maltreatment and their impact on depressed mood, illicit drug use, suicidal ideation, obesity, and problematic alcohol or tobacco use. They found that the associations between childhood maltreatment and mental health outcomes were positive and significant. Finally, Liu et al. (2018) found that CEA and CEN were related to non-suicidal self-injury behaviors in their review. The findings from our review, in which we cover varying populations without limitations on gender, ethnicity, cultures, and socio-economic status, are thus consistent with previous reviews suggesting long-term impacts of experiencing childhood abuse. We also reviewed the Chinese literature, which examined whether the associations between CEA/CEN and adult mental health generalized to different cultural contexts and found similar results.

However, there were some methodological differences worth highlighting. In the Chinese literature, researchers only measured CEA and CEN, not accompanied by measures of other types of abuse, which may have left the possibility of confounding with other types of abuse. Moreover, only Chang and Wang (2008) used a general population sample, other studies (n = 9) used college students, and one (Zhang et al., 2018) compared clinical populations and general populations.

Quality of Evidence

During the review process, some key limitations were identified. First, there was considerable variability in measurement methods for psychological maltreatment and mental health outcomes. Using different measures has both benefits and disadvantages. For example, similar

results based on diverse measurement approaches increases confidence in the findings; however, measurement heterogeneity also makes it difficult to compare the results across studies. There were several ways in which the measurement approaches differed. First, some studies measured various types of abuse while some only measured CEA and CEN. In the latter case there was no possibility to adjust for different forms of abuse. As such, these studies show that those experience CEA and CEN will be at risk of poorer adult mental health outcomes; however, they cannot identify the unique effects of CEA or CEN. This is a limitation given that different forms of abuse and adversity often co-occur and future studies on CEA and CEN are encouraged to measure these concepts in the concept of other risk factors for mental health issues, especially other forms of abuse. Another difference among studies was that some aimed to measure only childhood abuse within the family setting (e.g., physical abuse, sexual abuse, emotional abuse, or neglect). In contrast, others aimed to capture more general surroundings such as peer relations or living environment. Third, the age of victimization varied widely, from 14 to 18. Finally, the perpetrators referred to in the measures differed. Some studies examined parents or caregivers as perpetrators; some were parents or another older adolescent or adult; some were parents or adults in the same household (e.g., this is often how the CTQ is used); some referred to multiple perpetrators. This was different from the Chinese studies where the perpetrators referred to in all the included studies were limited to only parents or primary caregivers.

The English language studies were mainly located in the USA (n = 32). There were another 26 studies conducted in high-income countries or regions (e.g., UK, France, Poland, Italy, Netherland, South Korea, Germany, Norway, Portugal, New Zealand, Hongkong, Australia, Geneva) and 21 studies conducted in low- or middle-income countries or regions (e.g., China, Brazil, Turkey, Iran, South Africa). Our review suggested that the associations between CEA and poor adult mental health are consistent worldwide, and this was confirmed

by our moderation analysis which tested location as a moderator. The locations of the Chinese studies spanned the southern to the northern region of China; however, they were mainly from the regions with higher economic development. The lack of studies conducted in regions with lower economic development may be because there are many "left-behind children" (i.e., parents moved to other cities for work and left their children at home and asked other relatives or guardians to take care of them). The absence of parents may make the associations between CEA or CEN and adult mental health difficult to research. Studies were mainly conducted between 2010 and 2020, which suggested increasing attention to childhood psychological maltreatment and adult mental health. However, moderator analyses suggested that associations between CEA and adult mental health were not affected by the publication years. Finally, results suggested that most of the studies had a low risk of bias for English literature, while most studies had a higher risk of bias for Chinese literature. However, for both English and Chinese literature, the study quality did not affect the associations between CEA/CEN and adult mental health.

Finally, our review highlighted that CEN was found to have received less research attention compared to CEA. Only 38 English language and 11 Chinese language studies assessed CEN in our review. There are four types of child abuse – physical, sexual, emotional abuse, and neglect. Emotional neglect is under the category of neglect; therefore, some studies investigated neglect as a whole instead of emotional neglect only. For future research and measurement development, it would be beneficial to focus on the measurements for CEN and its impacts on adult mental health.

Strengths and Limitations

The current systematic review and meta-analyses represent the first effort to synthesize the English and Chinese literatures on the impacts of childhood psychological maltreatment on adult mental health.

The inclusion of studies written in both English- and Chinese-language may reduce generalizability issues as investigators in non-English speaking countries tend to publish some work in local journals (Dickersin, Scherer, & Lefebvre, 1994). In particular, researchers might be more likely to publish positive and significant results in an international English journal while reporting negative findings in the local journal (Egger & Smith, 1998). In the current review, we included a wide geographical reach and also included samples diverse in terms of languages, genders, ethnicity, cultures, race, nationality and geography; however, some areas of the world, especially those less developed within and across countries were under-represented.

However, our study also has some limitations with respect to diversity. Although the current review covered a wide geographical range, information such as gender identity, sexual orientation, religion, and ability were not typically available and older age groups were generally under-represented. Further research will be needed to address these gaps. In addition, due to the limited number of studies on some mental health problems (i.e., eating disorders, personality disorders, substance abuse, and other psychological symptoms) and articles written in Chinese, it was only possible to carry out meta-analyses on a limited number of outcomes (i.e., suicidal ideation, depression, and anxiety, and more reported CEA and CEN in clinical population). The lack of studies conducted in non-Western countries also meant that we could not fully explore these associations and their differences across different regions such as Africa, India, or South Asia. Last, despite our research team using multiple strategies to screen and extract the literature, we might have missed or misinterpreted some details presented in the

literature reviewed, given the inherent challenge of identifying all studies and the subjectivity of the review process.

Implications and Future Research

This review has implications for future research, policy, or practice related to childhood psychological maltreatment and adult mental health. First, it highlights that more research in general population samples beyond the USA and other developed countries and college student samples is needed to enhance the understanding of the impacts of childhood psychological maltreatment on adult mental health. More longitudinal studies are also needed to understand the longer-term impacts of these associations across the whole lifespan including into older adulthood. This understanding could help develop prevention and interventions or training programs across the lifespan that would aim to prevent and alleviate the impacts of childhood psychological maltreatment on individuals of different ages. For instance, parental training could benefit parents unaware that their behaviors are harmful to their children. Researchers could also compare the differences in childhood psychological maltreatment in different countries or regions to explore whether different psychological maltreatment behaviors are related to specific mental health problems. Finally, EA and EN are difficult to detect and quantify; therefore, it is essential to further define and develop measures and measurement approaches to assess psychological maltreatment for further research.

Policies that better address the issue of childhood psychological maltreatment are needed. There are policies and laws about sexual and physical abuse; however, written policies or legal guidance for emotional abuse and emotional neglect generally lag behind these. Parents need to be aware of their behaviors towards their children and implement strategies such as adaptive emotional regulation strategies when children misbehave to avoid behavior consistent with psychological maltreatment. Importantly, childhood psychological maltreatment needs to

be acknowledged as a severe public health concern instead of a personal and social problem, as it is seen now. Implications for practice, policy, and research are summarized in Table 6.

Declaration of Conflicting Interests

Funding

Supplementary Material

Supplementary material for this article is available online.

Reference: (references for included studies were in the Supplementary Material)

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Supplementary Materials

Supplementary Material 1: *String Examples for Searching*

Supplementary Material 2: *Main Character of Study and Study Population and Study Effect Size for English Studies*

Supplementary Material 3: *Main Character of Chinese Study and Study Population and Study Effect Size for Chinese Studies*

Supplementary Material 4: *Population Data on Childhood Psychological Maltreatment and Adult Mental Health Outcomes in English Studies*

Supplementary Material 5: *Study Data on Childhood Psychological Maltreatment and Adult Mental Health Outcomes in English Studies*

Supplementary Material 6: *Study Findings and Statistical Information of Childhood Psychological Maltreatment and Adult Mental Health Outcomes in English Studies*

Supplementary Materials 7: *Population Data on Childhood Psychological Maltreatment and Adult Mental Health in Chinese Studies*

Supplementary Material 8: *Study Data on Childhood Psychological Maltreatment and Adult Mental Health in Chinese Studies*

Supplementary Material 9: *Study Findings and Statistical Information Childhood Psychological Maltreatment and Adult Mental Health in Chinese Studies*

Supplementary Material 10: *Summary of Quality Assessment (Newcastle-Ottawa Scale): Case-Control Studies (English Studies)*

Supplementary Material 11: *Summary of Quality Assessment (Newcastle-Ottawa Scale): Cohort Studies*

Supplementary Material 12: *Summary of Quality Assessment (Newcastle-Ottawa Scale): Case-Control Studies (Chinese Studies)*

Supplementary Material 13: *References for Included Studies*

Supplementary Material 1

String examples for searching

Psychological Maltreatment* Child	AND	Mental Health* Adult
- child abuse [Title/Abstract] OR		- mental health* [Title/Abstract] OR
- childhood psychological maltreatment [Title/Abstract] OR		- generalized anxiety disorder* [Title/Abstract] OR
- childhood emotional abuse [Title/Abstract] OR		- depression* [Title/Abstract] OR
- childhood emotional neglect [Title/Abstract] OR		- major depression disorder* [Title/Abstract] OR
- psychological aggression [Title/Abstract] OR	AND	- PTSD* [Title/Abstract] OR
- psychological violence* [Title/Abstract] OR		- Personality disorder* [Title/Abstract] OR
- psychological domestic violence* [Title/Abstract] OR		- Eating disorder* [Title/Abstract] OR
- childhood psychological victimisation [Title/Abstract] OR		- Bipolar disorder* [Title/Abstract] OR
		- Schizophrenia* [Title/Abstract] OR

- Panic disorder*

  [Title/Abstract] OR

- Psychosis*

  [Title/Abstract] OR

- Social anxiety disorder*

  [Title/Abstract] OR

- Suicide attempt*

  [Title/Abstract] OR

- Suicide ideation*

  [Title/Abstract] OR

- Non-suicidal self-injury*

  [Title/Abstract] OR

- Substance abuse*

  [Title/Abstract] OR

Supplementary Material 2

Main Character of Study and Study Population and Study Effect Size for English Studies

Author (Year)	Location	Sample Size & Characteristic	Abuse Types	Abuse Measurements	Mental Health Measurements	Perpetrator	Effect Size
Personality Disorder							
Bernstein et al. (1998)	USA	378 Substance User, 85.6% male, M = 40.2	SA, PA, PN, EA, EN	CTQ-SF	PDQ-R	Parents/Caregivers	0.953 (EA) 0.430 (EN)
Cohen et al. (2013)	USA	156 Nonpsychotic Psychiatric Patient, 49.4% male	SA, PA, PN, EA, EN	CTQ-SF, MNBS, CTSPC-CA	PDQ	Parents/Caregivers	0.737
Cohen et al. (2014)	USA	231 Patient, 45.5% male, M = 39.32	SA, PA, PN, EA, EN	CTQ-SF, MNBS, CTSPC-CA	PDQ	Parents/Caregivers	N/A

Goodman et al. (2014)	USA	133 Undergraduates, 36.8% male, M = 19	SA, PA, PN, EA, EN	CTQ-SF	RSQ, SCID-II	Parents/Caregivers	0.588
Waxman et al. (2014)	USA	34,653 General Population, age over 18	SA, PA, PN, EA, EN	CTQ	AUDADIS-IV, NESARC	Parents/Caregivers	0.309

Eating Disorder

Amianto et al. (2018)	Italy	172 Patient (BED and obese) & Healthy, 22.1% male, M = 42.68	SA, PA, PN, EA, EN	CTQ-SF	TCI, EDI-2, BES, STAXI, SCL-90, BDI-II, ASQ, PBI	Parents/Caregivers	N/A
Kent et al. (1997)	USA	236 Undergraduates, all female, M = 22.8	SA, PA, EA	CATS	HADS, DES, EDI	Parents	N/A

Psychological Symptoms

Abajobir et al. (2017)	Australia	3,752 General Population, M = 20.6	SA, PA, PN, EA, EN	FYCCQ	Achenbach's YASR Behaviours Checklist, CBCL	Parents/Caregivers	0.552 (EA) 0.652 (EN)
Dias et al. (2015)	Portuguese	1,200 General Population, 54% male, M = 37.43	SA, PA, PN, EA, EN	CTQ-SF	BSI	Parents or adults in the same household	N/A
Fung et al. (2020)	Hongkong	418 General Population, 31.6% male, M = 27.3	PA, SA, PN, EA, EN	ACE	PHQ-9, GAD-7, PCT, DDIS-BPD, SDQ-5	Parents/Caregivers	0.250 (EA) 0.320 (EN)
Haferkamp et al. (2015)	Germany	203 Patients, all female, M = 38.26	SA, PA, EA, EN	CTQ	PTSD, DES	Parents/Caregivers	N/A

O Laoide et al. (2018)	USA	761 General Population, 30.4% male, M = 21.46	SA, PA, PN, EA, EN	CTQ-SF	CDS, ECR-RS, AEE, DASS-21	Parents/Caregivers	0.747 (EA) 0.797 (EN)
Sheikh et al. (2016)	Norway	12,981 General Population, 46.6% male	Psychological abuse, PA	CTEs	SCL-10, EQ-5D, SWLS	Parents/Caregivers	N/A
Taillieu et al. (2016)	USA	34,653 General Population, age over 20	SA, PA, PN, EA, EN	ACE	AUDADIS	Parents/Caregivers	0.186 (EA) 0.101 (EN)
van Duin et al. (2019)	Netherland	643 Multiple-problem Young Adult, M = 22.1	SA, PA, PN, EA, EN	CTQ-SF, ACE	ASR	Parents/Caregivers	N/A

Suicide Ideation

Allen et al. (2013)	N/A	260 Students, 43.5% male, M = 19.3	PA, psychological abuse, neglect	CCMS	IASC, PAI	Primary maternal / paternal caregivers, another older adolescent / adult	2.726
Gibb et al. (2001)	USA	209 College Students, aged over 18y	PA, SA, EA	LEQ	CSQ, ASD, BDI, HS, SCL-90, SADS-C	Parents/Caregivers	N/A
Briere et al. (2016)	USA	387 General Population, 57.6% male, M = 49.3	SA, PA, EA	TES	DAPS	Parents/Caregivers	N/A
Buser & Hackney (2012)	USA	390 General Population, 34% male, M = 20.3	EA	EASE-PI	ASQ-GU, FASM	Parents/Caregivers	0.652

Study	Country	Sample	Types	Measure	Outcome measures	Reporter	Effect size
de Mattos Souza et al. (2016)	Brazil	473 MDD, 18.2% male	SA, PA, PN, EA, EN	CTQ-SF	MINI Plus, ASSIST	Parents/Caregivers	0.037
Janiri et al. (2015)	Italy	207 BD + HC, 56% male, M = 44.83	SA, PA, PN, EA, EN	CTQ-SF	YMRS, HDRS, HARS	Parents/Caregivers	0.149
Falgares et al. (2018)	Italy	293 General Population, 16.72% male, M = 21.57	PA, SA, EA	CECA	DEQ, SHSS	Parents	1.283
Harford et al. (2014)	USA	34,653 General Population, aged over 18y	PA, SA, EA	ACE	Violence Indicators, Suicidal attempt, AUDADIS-IV	Parents or adults in the same household	0.193 (EA) 0.178 (EN)

Lee (2015)	Korea	1,396 General Population	SA, PA, EA	ETISR-SF	PHQ-9, MINI	Parents/Caregivers	0.477
Thompson et al. (2000)	USA	335 Africa American, all female, M = 32.17	SA, PA, PN, EA, EN	CTQ	NWS PTSD Module	Parents	0.957
Puzia et al. (2013)	USA	189 Undergraduate, 15.8% male	SA, PA, PN, EA, EN	CTQ-SF	INQ, BSS	Parents/Caregivers	0.110
Saracli et al. (2016)	Turkey	897 General Population, 47.3% male	SA, PA, PN, EA, EA	CTQ-SF	SPS, BDI, BAI	Parents/Caregivers	0.685 (EA) 0.655 (EN)
Smith et al. (2018)	USA	91 General Population, M = 21.72	PA, SA, EA	CTQ-SF	INQ, ACSS, BDI-II, SITBI	Parents or adults in the same household	1.907

Substance Abuse

Aas et al. (2014)	Norway & France	587 BD, 39.9% male, M = 40.6	SA, PA, PN, EA, EN	CTQ-SF	DIGS, SCID-I	Parents or adults in the same household	N/A
Abajobir et al. (2017)	Australia	3,750 General Population, 47.2% male, M = 20.6	SA, PA, PN, EA, EN	FYCCQ	Asking whether the respondents had ever injected illicit drug	Parents/Caregivers	0.507 (male) 0.609 (female)
Afifi et al. (2012)	USA	34,653 General Population, aged over 20y	SA, PA, PN, EA, EN	CTQ	AUDADIS-IV	Parents/Caregivers	0.409 (EA both male & female) 0.145 (EN male) 0.224 (EN female)

| Can et al. (2019) | Istanbul | 328 Alcohol-dependent Inpatient + Healthy, all male, M = 38.88 | SA, PA, PN, EA, EN | CTQ-SF | YSQ-SF, MAST | Parents or adults in the same household | 0.449 |
| Crouch et al. (2018) | South Carolina | 7,934 General Population, 49.6% male | PA, SA, EA | ACE | Asking "Considering all types of alcoholic beverages, how many times during the past 30 days did you have five or more drinks | Parents or adults in the same household | 0.193 (male) 0.016 (female) |

					for men or four or more drinks for women on occasion?"		
Elliott et al. (2014)	USA	5,189 Adult Alcohol and Nicotine Dependence	SA, PA, PN, EA, EN	AUDADIS-IV	AUDADIS-IV	Parents/Caregivers	0.374 (EA) 0.149 (EN)
Florez et al. (2020)	USA	172 Low-income African American Women, M = 34.49	PA; SA; EA	CTQ-SF	DTS, bMAST	Parents or adults in the same household	N/A
Junglen et al. (2019)	USA	study 1: 368 Community-based Alcohol	Study 1: EA	Study 1: LSC-R Study 2:	PCL-C, SIP-AD, UPPS Impulsive	Parents/Caregivers	N/A

		and Drug Detoxification Centre, 59.1% male, M = 34.68 study 2: 274, 62.5% male, M = 34.68	Study 2: SA, PA, PN, EA, EN	CTQ-SF	Behaviour Scale		
Mandavia et al. (2016)	USA	2,014 General Population, 28.1% male, M = 39.54	SA, PA, EA	CTQ, TEI	EDS, AUDIT	Parents/Caregivers	N/A
Potthast et al. (2014)	Germany	75 Alcohol Dependence Patient, 69.3% male, M = 42.33	SA, PA, PN, EA, EN	CTQ	AUDIT, PDS, BDI, SCID-I, SPS/SIAS, BSL-23	Parents/Caregivers	1.186

Yuan et al. (2014)	USA	447 LGBT AI/AN (American Indian and Alaska Native), 39.6% male, M = 38.47	SA, PA, PN, EA, EN	CTQ-SF	MINI	Parents or adults in the same household	0.753

Depression & Anxiety

Arnow et al. (2011)	USA	5,673 Patient, 42.3% male, M = 53.3	SA, PA, PN, EA, EN	CTQ-SF	PHQ	Parents/Caregivers	1.84
Balsam et al. (2010)	USA	669 LGB, 38.3%, M = 36.5	PA, SA, EA	CTQ-SF	ESDC, PHQ, GAD-7, PSS-SF, PTSD-CV	Parents or adults in the same household	1.404
Brown et al. (2016)	USA	339 College Students, 51.3% male, M = 19	SA, PA, PN, EA, EN	CTQ-SF	TAS-20, SMFQ, GAD-7, UCLA	Parents or adults in the same household	N/A

					Loneliness Scale		
Christ et al. (2019)	Netherland	276 College Students, all female, M = 21.7	SA, PA, EA	CTQ-SF	QIDS-SR, DERS, IIP-32	Parents/Caregivers	0.703
Crow et al. (2014)	USA	3,902 General Population, M = 39.34	SA, PA, PN, EA, EN	CTQ-SF	EDS, BDI-II	Parents/Caregivers	1.008 (EA) 0.797 (EN)
Ferguson & Dacey (1997)	USA	110 Health Care Professionals, M = 35.65	Physical trauma, sexual trauma, psychological trauma	CEQ	STAI, BDI, DES	Parents	N/A
Gong & Chan (2018)	China	1102 College Students, 26.9% male, M = 20.46	SA, PA, PN, EA, EN	CTQ-SF	EMSs, SDS, SAS	Parents/Caregivers	N/A

Huh et al. (2017)	Korea	585 Depression Patients, 38.6% male, M = 36.94,	SA, PA, PN, EA, EN	CTQ-SF	CERQ, BDI, STAI, MINI	Parents/Caregivers	N/A
Massing-Schaffer et al. (2015)	USA	185 Undergraduates, 24.9% male, M = 19.65	SA, PA, PN, EA, EN	CTQ-SF	SADS-I, BDI, FSQ, RSS, RSQ	Parents/Caregivers	0.559
McCabe et al. (2018)	Latinas	548 General Population, M = 38.48	PA, SA, EA	Violence Assessment developed for a previous randomized trial with Latinas	ESDC, RCTS-SF	Parents or adults in the same household	0.432
Novelo et al. (2018)	Brazil	449 Elder People, 35.9% male	SA, PA, PN, EA, EN	CTQ-SF	GDS	Parents/Caregivers	0.811 (EA) 0.617 (EN)

O'Mahen et al. (2015)	UK vs. USA	140 Pregnant, primarily low-income women, all female, M = 23.27	SA, PA, PN, EA, EN	CTQ-SF	SCID, EPDS, BDI, RRS, BADS	Parents/Caregivers	-0.083 (EA) 0.016 (EN)
Ross et al. (2019)	USA	244 General Population, 21.7% male, M = 20.80	SA, PA, PN, EA, EN	CTQ-SF	26-items Self-Compassion Scale, ISS, CESD-R	Parents/Caregivers	N/A
Sunley et al. (2020)	Netherland	22,551 General Population, 42.7% male, M = 43.68	SA, PA, EN, psychological abuse	4-items NEMESIS Childhood Trauma Scale	PHQ-9	Parents/Caregivers	0.447 (EN) 0.299 (psychological abuse)
Wright et al. (2009)	USA	301 College Students, 47.5% male, M = 20.37	SA, PA, PN, EA, EN	LEQ	CAST-6, TSC-40, YSQ	Parents/Caregivers	0.797 (EA) 0.699 (EN)

| Wu et al. (2018) | China | 358 College Students, M = 19.18 | SA, PA, PN, EA, EN | CTQ-SF | SCS, TDS, Gratitude Questionnaire-Six | Parents | N/A |

Psychological Maltreatment in Clinical Population

Bruni et al. (2018)	Italy	333 Patient + HC, 45.3% male	Psychological abuse, SA, PA	CECA	SCID-I	Parents/Caregivers	N/A
Etain et al. (2010)	France	300 BD + HC, 41.25% male, aged over 18y	SA, PA, PN, EA, EN	CTQ-SF	MADRS, MRS	Parents/Caregivers	0.419
Evren et al. (2010)	Turkey	156 AD, aged over 18	SA, PA, PN, EA, EN	CTQ-SF	CAPS, DES, MAST, The SF-36	Parents/Caregivers	N/A
Evren et al. (2016)	Turkey	190 AUD, all male, M = 44.69	SA, PA, PN, EA, EN	CTQ-SF	ASRS, PCL-C	Parents/Caregivers	0.839

Fowke et al. (2012)	UK	70 BD + HC, 18.6% male, M = 45.86	SA, PA, PN, EA, EN	CTQ-SF	HADS, ISS	Parents/Caregivers	N/A
Hariri et al. (2015)	Turkey	250 BD + HC, 35.2% male, M = 39.15	SA, PA, PN, EA, EN	CTQ-SF	HDRS, YMRS, HARS, DSM-IV for BD	Parents/Caregivers	N/A
Jaworska-Andryszewska et al. (2018)	Poland	52 BD, 44.2% male, M = 47	SA, PA, PN, EA, EN	CTQ-SF	HDRS, YMRS	Parents/Caregivers	0.072 (EA) 0.116 (EN)
Kefeli et al. (2018)	Turkey	80 BD + HC, 52.5% male, M = 33.41	SA, PA, PN, EA, EN	CTQ-SF	DES, SDQ, TAS-20, DASS-21, ECR-R	Parents/Caregivers	0.016

Khosravani, et al. (2019)	Iran	350 Substance Abuse Patient, all male, M = 32.3	SA, PA, PN, EA, EN	CTQ-SF	DERS, OCDUS, BDI-II	Parents/Caregivers	N/A
Kounou et al. (2013)	France	181 MDD = HC, 33.7% male, M = 28.97	SA, PA, PN, EA, EA	CTQ-SF	PDQ	Parents/Caregivers	0.721
Kruger et al. (2017)	South Africa	116 Patient with Psychiatric Disorder, aged over 18y	EA, EN, SA, bodily threat, sexual harassment	TEC	DES, MID	Multiple Perpetrators	N/A
Kulacaoglu et al. (2017)	Turkey	330 BPD + HC, 22.4% male, M = 23.02	SA, PA, PN, EA, EN	CTQ-SF	ASRS, BIS-11, DIS-Q	Parents/Caregivers	N/A
Mirhashem et al. (2017)	USA	84 Opioid Use Patient, 53.6% male, M = 35.27	SA, PA, PN, EA, EN	CTQ-SF	SIPS-R, ASI-Lite, SUPPS-	Parents/Caregivers	N/A

P, PCL, SCID,

MINI

Study	Country	Sample	Maltreatment	Measure	Other Measures	Informant	Effect Size
Neumann (2017)	Germany	191 Depression + HC, 36.6% male, M = 39.45	SA, PA, PN, EA, EN	CTQ-SF	SCL-90-R, ECR	Parents/Caregivers	0.539
Ostefjells et al. (2017)	Norway	261 BD + Psychotic Disorder	SA, PA, PN, EA, EN	CTQ-SF	PANSS, GAF, MCQ-30	Parents/Caregivers	1.216
Pavlova et al. (2015)	Switzerland	174 BD, 44.3% male, M = 41.79	SA, PA, PN, EA, EN	CTQ-SF	MINI	Parents/Caregivers	0.379 (EA) 0.348 (EN)
Price et al. (2017)	USA	84 SUD, 53.6% male, M = 35.27	SA, PA, PN, EA, EN	CTQ-SF	ASI-Lite, PCL, SCID-I	Parents/Caregivers	N/A
Russo et al. (2013)	USA	56 BD, 60.7% male, M = 43.88	SA, PA, PN, EA, EN	CTQ-SF	SCID-I, IGT, AGNG	Parents/Caregivers	N/A

Sar et al. (2009)	Turkey	32 Outpatient, 15.6% male	SA, PA, PN, EA, EN	CTQ-SF	DDIS, DES, SDQ, CADSS, STAI	Parents/Caregivers	N/A
Schulz et al. (2017)	Germany	123 MDD, 59.3% male, M = 40.3	SA, PA, PN, EA, EN	CTQ	BDI-II, PSDI, EAQ, MADRS	Parents/Caregivers	0.583
Ventimiglia et al. (2020)	South Africa	107 Mood Disorder Patient, 24.3% male, M = 37.04	SA, PA, PN, EA, EN	CTQ-SF	LEC, QIDS, ASRM	Parents or adults in the same household	N/A
Watson et al. (2014)	UK + New Zealand	115 BD + HC, 53.9% male, M = 46.5	SA, PA, PN, EA, EN	CTQ-SF	NART, HDRS-17	Parents/Caregivers	N/A
Xie et al. (2018)	China	679 Patient, 35.8% male, M = 27.26	SA, PA, PN, EA, EN	CTQ-SF	SSRS, SIOSS, ICD-10	Parents/Caregivers	0.417 (depression) 1.270 (bipolar)

							1.133 (schizophrenia)
Zhang et al. (2013)	China	2,090 Patient, 64.8% male, M = 32	SA, PA, PN, EA, EN	CTQ-SF	DSM-IV	Parents/Caregivers	0.414 (EA) 0.321 (EN)

Notes. M = Mean Age, SA = Sexual Abuse, PA = Physical Abuse, PN = Physical Neglect, EA = Emotional Abuse, EN = Emotional Neglect, CTQ-SF = Childhood Trauma Questionnaire-Short Form, PDQ-R = Personality Diagnostic Questionnaire-revised, MNBS= Multidimensional Neglectful Behavior Scale, CTSPC-CA= Conflict Tactics Scale Parent Child-Child Adult, PDQ = Personality Disorder Questionnaire, RSQ = Adult Rejection Sensitivity Questionnaire, SCID-II = Structured Clinical Interview for DSM-IV Axis Personality Disorder-Self Report, CTQ = Childhood Trauma Questionnaire, AUDADIS-IV = The Alcohol Use Disorder and Associated Disabilities Interview Schedule-IV, NESARC = The National Epidemiological Survey on Alcohol and Related Condition, BED = Binger Eating Disorder, TCI = Temperament and Character Inventory, EDI-2 = Eating Disorder Inventory-2, BES = Binge Eating Scale, STAXI = State-Trait Anger Expression Inventory, SCL-90 = Symptom Checklist, BDI-II = Beck Depression Inventory-II, ASQ = Attachment Style Questionnaire, PBI = Parental Bonding Instrument, CATS = Childhood Abuse and Trauma Scale, HADS = Hospital Anxiety and Depression Scale, DES = Dissociative Experiences Scale, EDI = Eating Disorder Inventory, CBCL = Child Behavior Checklist, BSI = Brief Symptom Inventory, ACE = Adverse Childhood Experiences, PHQ-9 = Patient Health Questionnaire, GAD-7 = Generalized Anxiety Disorder 7-items, PCL = Post Traumatic Stress Disorder Checklist,

BPD = Borderline Personality Disorder, SDQ-5 = Somatoform Dissociation Questionnaire, CDS = Cambridge Depersonalization Scale, ECR-RS = The Experience in Close Relationships-Relationship Structures Questionnaire, AEE = The Attitudes toward Emotional Expression, DASS-21 = The Depression, Anxiety, and Stress Scale, CTEs = Childhood Traumatic Experiences, SCL-10 = Hopkins Symptoms Checklist-10, EQ-5D = included mobility; self-care; usual activities; pain/discomfort; and anxiety/depression, SWLS = *The Satisfaction With Life Scale,* ASR = Adult Self-Reporting, CCMS = Comprehensive Child Maltreatment Scale , IASC = Inventory of Altered Self-Capacities, PAI = Personality Assessment Inventory, LEQ = Lifetime Experiences Questionnaire, CSQ = Cognitive Style Questionnaire, ASD = Attributional Style Questionnaire, BDI = Beck Depression Inventory, HS = Beck Hopelessness Scale, , SADS-C = Schedule for Affective Disorder and Schizophrenia-Change version, TES = Traumatic Experiences Scale, DAPS = Detailed Assessment of Posttraumatic Stress, EASE-PI = Exposure to Abusive and Supportive Environments Parenting Inventory, ASQ-GU = Attributional Style Questionnaire for General Use, FASM = Functional Assessment of Self-Mutilation, MDD = Major Depressive Disorder, MINI-Plus = *Mini*-International Neuropsychiatric Interview-Plus (included panic disorder, social phobia, OCD, PTSD, and/or generalized anxiety disorder, suicide attempting, suicidal ideation), ASSIST = Alcohol, Smoking, and Substance Involvement Screening Test, BD = Bipolar Disorder, HC = Healthy Subjects, YMRS = Young Mania Rating Scale, HDRS = Hamilton Depression Rating Scale, HARS = Hamilton Anxiety Rating Scale, CECA = Childhood Experience of Care and Abuse Questionnaire, DEQ = Depressive Experience Questionnaire, SHSS = Suicidal History Self-Rating Screening Scale, ETISR-SF = Early Trauma Inventory Self Report-Short Form, MINI = Mini International Neuropsychiatric Interview, NWS = National Women's Study, PTSD = Posttraumatic Stress Disorder, INQ = The interpersonal Needs Questionnaire, BSS = Beck Scale for Suicide Ideation, SPS = Suicide

Probability Scale, BAI = Beck Anxiety Inventory, BAI = Beck Anxiety Inventory, ACSS = Acquired Capability foe Suicide Scale, SITBI = Self-Injurious Thoughts and Behaviours Interview, DIGS = Diagnostic Interview for Genetic Studies, SCID-I = Structured Clinical Interview for DSM-IV Axis I Disorder, FYCCQ = Youth and Community Care Queensland, YSQ-SF = Young Schema Questionnaire-Short Form, MAST = Michigan Alcoholism Screening Test, DTS = Davidson Trauma Scale, bMAST = Brief Michigan Alcoholism Screening Test, LSC-R = Life Stressor Checklist-Revised, SIP-AD = Short Inventory of Problem-Alcohol and Drugs, PCL-C = PTSD checklist-Civilian, **UPPS**-P Impulsive Behavior Scale, TEI = Traumatic Events Inventory, EDS = Emotional Dysregulation Scale, AUDIT = Alcohol Use Disorder Identification Test, , PDS = Posttraumatic Stress Diagnostic Scale, SCID-II = Structured Clinical Interview for DSM-IV Axis Personality Disorder-Self Report SPS/SIAS = Social Phobia Scale/Social Interaction Scale, BSL-23 = Borderline Symptom List, PHQ = Patient Health Questionnaire, ESDC = Epidemiological Studies Depression Scale, PTSD-CV = PTSD Checklist-Civilian Version, PSS-SF = Perceived Stress Scale-Short Form, TAS-20 = Toronto Alexithymia Scale, SMFQ = Short Mood and Feeling Questionnaire, QIDS-SR = Quick Inventory of Depressive Symptoms, DERS = Difficulties in Emotion Regulation Scale, IIP-32 = Inventory of Interpersonal Problems, , CEQ = Childhood Experiences Questionnaire, SATI = State-Trait Anxiety Inventory Form, EMSs = Early Maladaptive Schemas, SDS = The Zung Self-Rating Depression Scale, SAS = The Zung Self-Rating Anxiety Scale, CERQ = The Cognitive Emotion Regulation Questionnaire, SADS-I = The Schedule for Affective Disorders and Schizophrenia-Lifetime Interview, FSQ = Feedback Seeking Questionnaire, RSS = Reassurance-Seeking Scale, RCTS-SF = Revised Conflict Tactics Scale-Short Form, GDS = the 15-items Geriatric Depression Scale, EPDS = *Edinburgh Postnatal Depression Scale,* RRS = Ruminative Responses Scales, BADS = Behavioral Activation for depression Scale, ISS = Internalized Shame Scale,

CESD-R = the Centre for Epidemiological Studies Depression Scale-Revised, CAST-6 = Children of Alcoholics Screening Test, TSC-40 = Trauma Symptom Checklist-40, YSQ = Young's Schema Questionnaire, SCS = Self-Compassion Scale, TDS = Trait Depression Subscale, AD = Alcohol Dependent, MADRS = Montgomery Asberg Depression Rating Scale, MRS = Mania Rating Scale, CAPS = Clinician Administered PTSD Scale, The SF-36 = The Short-Form 36 including general health, physical functioning, role limitation due to physical health, bodily pain, mental health, role limitation due to emotional problems, energy fatigue and social functioning, ASRS = Adult ADHD Self-report Scale, ISS = Internalized Shame Scale, SUD = Substance Use Disorder, OCDUS = Obsessive Compulsive Drug Use Scale, TEC = Traumatic Experiences Checklist, MID = Multidimensional Inventory of Dissociation, SUPPS-P = Short Form of the UPPS-P Impulsive Behaviour Scale, SCL-90-R = Symptoms Checklist-90-Revised, PANSS= Positive and Negative Syndrome Scale Score, GAF = Global Assessment of Functioning, ASI-Lite = Addiction Severity Index Lite, SUPPS-P = Short Form of the UPPS-P Impulsive Behaviour Scale, IGT = evaluates processes underlying emotional decision-making, AGNG = measure inhibitory control in response to emotional stimuli, CADSS = Clinician-Administered Dissociative State Scale, DDIS = Dissociative Disorder Interview Schedule, STAI = Spielberger State-Trait Anxiety Scale, PSDI = Personality Style and Disorder Inventory, EAQ = Emotion Acceptance Questionnaire, LEC = Life Event Checklist, QIDS = Quick Inventory of Depressive Symptoms, ASRM = Altman Self-rating Mania Scale, NART = National Adult Reading Test (including BMI, pre-morbid IQ), SSRS = Social Support Rating scale, SIOSS = Self-rating Idea of Suicide Scale, ICD-10 = International Statistical Classification of Diseases and Related Health Problems-10, DSM-5 = The Diagnostic and Statistical Manual of Mental Disorders.

Supplementary Material 3

Main Character of Chinese Study and Study Population and Study Effect Size for Chinese Studies

Author (Year)	Location	Sample Size & Characteristic	Abuse Types	Abuse Measurements	Mental Health Measurements	Perpetrator	Effect Size
Chang & Wang (2008)	Zhengjiang	230 General Population, 58.7%male, M = 32.3	EA, EN	CPANS	SCL-90	Parents/Caregivers	0.539(EA) 0.772 (EN)
Dai et al. (2016)	Liaoning	730 College students, 26% male, M = 19.8	EM	CPANS	Adolescent Self-injury Scale	Parents/Caregivers	0.494 (EA) 0.345 (EN)
Deng et al. (2018)	Beijing	407 College students, 31.7% male	EM	Childhood Emotional Abuse Questionnaire	CD-RISE, SDS	Parents/Caregivers	0.387
Guo (2018)	Shandong	262 College students, 35.1% male, M = 20.62	EM	CTSPC	SCL-90	Parents/Caregivers	0.699
Han et al. (2018)	Yantai	395 College students, 38.2% male	EA, EN	CPANS	BPAQ, RSE	Parents/Caregivers	1.424

Wang & Lui (2017)	Haerbin	427 College students, M = 20.99	EM	Childhood Emotional Abuse Scale	CFI, CES-D	Parents/Caregivers	1.022
Xie et al. (2008)	Changsha	457 College students, 52.1% male, M = 20.2	EA, EN	CPANS	SCL-90	Parents/Caregivers	N/A
Yang et al. (2019)	Jiangxi	941 College students, 48.4% male, M = 20.32	EA, EN	CPANS	RRS, PANSI Being Bullied Questionnaire	Parents/Caregivers	1.155
Zeng et al. (2016)	Haerbin	603 College students, 15.3% male	EM	Childhood Emotional Abuse Scale	STDEP, RRS	Parents/Caregivers	0.980
Zhang et al. (2017)	Liaoning	1502 College students, 40.7% male, M = 18.43	EM	CPANS	Adolescent Self-injury Scale, Social Support Scale	Parents/Caregivers	0.430 (EA) 0.606 (EN)

| Zhang et al. (2018) | Jiang Su | 110 OCD + HC, 44.5% male, M = 31.88 | EM | CPMS | IUS-12, YBOCS | Parents/Caregivers | N/A |

Notes. M = Age Mean, Range = Age Range, OCD = Obsessive Compulsive Disorder, HC = Healthy Controls, SCL-90 = Symptoms Checklist 90, EM = Emotional Maltreatment, Childhood Emotional Abuse Questionnaire = included three questions: 1) during childhood, your parents called you 'stupid', 'ugly', 2) your parents humiliated you in public during your childhood, 3) your parents told you wished you are not there during childhood, CD-RISE = Connor-Davidson Resilience Scale, SDS = Self-Rating Depression Scale, CTSPC = Parent-Child Conflict Tactics Scales, BPAQ = Buss-Perry Aggression Questionnaire, RSE = Rosenberg Self Esteem Scale, CFI = Cognitive Flexibility Inventory, CES-D = Centre for Epidemiologic Studies Depression Scale, Childhood Emotional Abuse Scale = developed by Pan et al., (2010), RRS = Rumination Response Scale, PANSI = Positive and Negative Suicide Ideation, Being Bullied Questionnaire = developed by Lui et al., (2006), STDEP = State-Trait Depression Scale, CPMS = Child Psychological Maltreatment Scale, IUS-12 = Intolerance of uncertain Scale – 12, YBOCS = Yale-Brown Obsessive-Compulsive Scale.

Supplementary Material 4

Population Data on Childhood Psychological Maltreatment and Adult Mental Health Outcomes in English Studies

Authors (Year)	Location	Setting	Sample Population	Sample Size	Sample Population Demographic
Personality Disorder					
Bernstein et al. (1998)	USA	Clinical	Substance User	378	85.6% male, M = 40.2, range = 24-68
Cohen et al. (2013)	USA	Clinical	Nonpsychotic Psychiatric Patient	156	Low personality pathology (50 male, 52 female), High personality pathology (27 male, 27 female); range = 18-65
Cohen et al. (2014)	USA	Clinical	Patient	231	105 males, 126 females M = 39.32; range =18-65
Goodman et al. (2014)	USA	Community	Undergraduate	133	84 females, 49 males; M = 19
Waxman et al. (2014)	USA	Community	General Population	34,653	age over 18y
Eating Disorder					

Amianto et al. (2018)	Italy	Clinical vs. Community	Patient (BED and obese) & healthy	172	134 females, 38 males M (BED) = 42.81 M (OB) = 43.71 M (HS) = 41.53
Kent et al. (1997)	USA	Community	Psychology and nursing students	236	All females; M = 22.8

Psychological Symptoms

Abajobir et al. (2017)	Australia	Community	General Population	3,752	Age over 21y M = 20.6
Dias et al. (2015)	Portuguese	Community	General Population	1,200	648 males; 533 females; M = 37.43, range = 18-65
Fung, Chung, & Ross (2020)	Hongkong	Community	General Population	418	67.5% female, 31.6% male, 1% transgender; M = 27.3, range = 18-64
Haferkamp et al. (2015)	Germany	Clinical	Patient	203	All female M = 38.26, range = 19-66

O Laoide et al. (2018)	USA	Community	General Population	761	69.6% female, 30.4% male; M = 21.46, range = 18-25
Sheikh, Abelsen, & Olsen (2016)	Norway	Community	General Population	12,981	6,054 males, 6,930 females; born between 1920 and 1977
Taillieu et al. (2016)	USA	Community	General Population	34,653	aged 20 or older
van Duin et al. (2019)	Netherland	Community	Multiple-problem Young Adult	643	M = 22.1
Suicide Ideation/Attempts					
Allen et al. (2013)	N/A	Community	Students	260	147 females, 113 males; M = 19.3
Gibb et al. (2001)	USA	Community	College Students	209	Aged over 18y
Briere et al. (2016)	USA	Community	General Population	387	223 males, 164 females; M = 49.3, range = 18-91
Buser & Hackney (2012)	USA	Community	General Population	390	66% female; M = 20.3, range = 18-25

de Mattos Souza et al. (2016)	Brazil	Clinical	MDD Patient	473	MMD: 396 females, 77 males; suicide risk MMD: 68 females, 9 males; range = 18-60
Janiri et al. (2015)	Italy	Clinical vs. Community	BD + HC	207	BD I (39 males, 19 females; M = 43.93) BD II (23 males, 23 females; M = 46.32) HC (54 males, 49 females; M = 44.26)
Falgares et al. (2018)	Italy	Community	General Population	293	83.28% female; M = 21.57, range = 18-27
Harford et al. (2014)	USA	Community	General Population	34,653	Aged over 18y
Lee (2015)	Korea	Community	General Population	1,396	M = 52.763
Thompson et al. (2000)	USA	Community	African American	335	All females; M = 32.17, range = 18-64
Puzia et al. (2013)	USA	Community	Undergraduates	189	84.2% females

Saracli et al. (2016)	Turkey	Community	General Population	897	424 males, 467 females; range = 18-65
Smith et al. (2018)	USA	Community	General Population	91	M = 21.72, range = 18-47

Substance Abuse

Aas et al. (2014)	Norway & France	Clinical	Bipolar Disorder Patient	587	234 males, 353 females M = 40.6
Abajobir et al. (2017)	Australia	Community	General Population	3,750	1,769 males; 1,981 females; M = 20.6
Afifi et al. (2012)	USA	Community	General Population	34,653	age over 20y
Can et al. 2019)	Istanbul	Clinical vs. Community	Alcohol-dependent Inpatient + Healthy	328	All males; 220 inpatients (M = 43.57), 108 healthy (M = 35.19)
Crouch et al. (2018)	South Carolina	Community	General Population	7,934	3934 men; 4000 women 22% aged 18-29 18.6% aged 30-39 18.3% aged 40-49 17.1% aged 50-59

					14.7% aged 60-69
					7.3% aged 70-79
					2.1% aged over 80
Elliott et al. (2014)	USA	Community	Adult Alcohol and Nicotine Dependence	5,189	1,172 alcohol dependence, 4,017 nicotine dependence; range =18-24
Florez et al. (2020)	USA	Community	Low-income African American Women	172	M = 34.49
Junglen et al. (2019)	USA	Community	Community-based Alcohol and Drug Detoxification Center	study 1: 368 study 2: 274	study 1: 59.1% male. M = 34.68 study 2: 62.5% male. M = 34.68
Mandavia et al. (2016)	USA	Community	General Population	2,014	71.9% females. M = 39.54, range = 18-65

Potthast et al. (2014)	Germany	Clinical	Alcohol Dependence Patient	75	52 males, 20 females; M = 42.33
Yuan et al. (2014)	USA	Community	LGBT AI/AN (American Indian and Alaska Native)	447	177 males; M = 37.97, range = 20-63
					117 females; M = 38.98, range = 18-62

Depression and Anxiety

Arnow et al. (2011)	USA	Clinical	Patient	5,673	2,402 males (M = 54.5), 3,271 females (M = 52.1), range = 21-75
Balsam et al. (2010)	USA	Community	LGB	669	256 males, 413 females; M = 36.5, range = 18-74
Brown et al. (2016)	USA	Community	College student	339	174 males, 164 females; M = 19, range = 18-25
Christ et al. (2019)	Netherland	Community	College student	276	All females; M = 21.7
Crow et al. (2014)	USA	Community	General Population	3,902	M = 39.34, range = 18-81

Ferguson & Dacey (1997)	USA	Community	Health Care Professionals	110	Maltreated: M = 36.7, range = 20-61 Control: M = 34.6, range = 22-58
Gong & Chan (2018)	China	Community	College students	1102	296 males, 806 females; M = 20.46
Huh et al. (2017)	Korea	Clinical	Depression Patient	585	226 males, 316 females; M = 36.94, range = 18-65
Massing-Schaffer et al. (2015)	USA	Community	Undergraduates	185	75.1% female; M = 19.65
McCabe et al. (2018)	Latinas	Community	General Population	548	M = 38.48, range = 18-50
Novelo et al. (2018)	Brazil	Community	Elder people	449	161 males, 288 females; range = 60-103
O'Mahen et al. (2015)	UK vs. USA	Community	Pregnant, primarily low-income women	140	All women; M = 23.27

Ross & Kaminski, & Herrington (2019)	USA	Community	General Population	244	187 females,53 males, 2 transgenders, 2 gender-fluids; M = 20.80
Sunley et al. (2020)	Netherland	Community	General Population	22,551	12,932 females, 9,619 males; M = 43.68, range = 18-70
Wright & Crawford, & Del Castillo (2009)	USA	Community	College students	301	143 males, 158 females; M = 20.37
Wu et al. (2018)	China	Community	College students	358	M = 19.18, range = 18-34
Psychological Maltreatment in Clinical Population					
Bruni et al. (2018)	Italy	Clinical vs. Community	Patients + HC	333	151 males, 182 females
Etain et al. (2010)	France	Clinical vs. Community	BD + HC	300	BD (40.8% male); HC (61.7% male); aged over 18y
Evren et al. (2010)	Turkey	Clinical	AD Patient	156	Aged over 18y
Evren et al. (2016)	Turkey	Clinical	AUD Patient	190	All male; M = 44.69

Fowke, Ross, & Ashcroft (2012)	UK	Clinical vs. Community	BD + HC	70	22 females, 13 males in both group BD (M = 45.57); HC (M = 46.20)
Hariri et al. (2015)	Turkey	Clinical vs. Community	BD + HC	250	BD: 71 men (M = 39), 129 women (M = 38.2) HC: 17 men (M = 40.6), 33 women (M = 38.8)
Jaworska-Andryszewska et al. (2018)	Poland	Clinical	BD	52	23 males, 29 females; M = 47
Kefeli et al. (2018)	Turkey	Clinical vs. Community	BD + HC	80	47.5% female; M = 33.41, range = 18-54
Khosravani et al. (2019)	Iran	Clinical	Substance Abuse Patient	350	All male (M = 32.3, range = 18-61)

Kounou et al. (2013)	France	Clinical vs. Community	MDD + HC	181	MMD: 60 females (M = 29.21) HC: 60 females (M = 28.73)
Kruger et al. (2017)	South Africa	Clinical	Patient with Psychiatric Disorder	116	aged over 18y
Kulacaoglu et al. (2017)	Turkey	Clinical vs. Community	BPD + HC	330	HC: 37 males, 128 females (M = 23.58) BPD: 37 males, 128 females (M = 22.46)
Mirhashem et al. (2017)	USA	Clinical	Opioid Use Patient	84	45 males, 39 females; M = 35.27
Neumann (2017)	Germany	Clinical vs. Community	Depression + HC	191	HC: 41 males, 70 females; M = 38.48 depressed: 29 males, 51 females; M = 40.39
Ostefjells et al. (2017)	Norway	Clinical	BD + Psychotic Disorder	261	Range = 18-65

Pavlova et al. (2015)	Geneva	Clinical	BD	174	98 females, 77 males; M = 41.79
Price, Connor, & Allen (2017)	USA	Clinical	SUD	84	45 males, 39 females; M = 35.27
Russo et al. (2013)	USA	Clinical	BD	56	34 males (M = 42.12); 22 females (M = 45.65)
Sar, Islam, & Ozturk (2009)	Turkey	Clinical	Outpatient	32	27 females, 5 males; M = 33.3, range = 18-65
Schulz et al. (2017)	Germany	Clinical	MDD patient	123	73 males, 50 females; M = 40.3, range = 18-64
Ventimiglia et al. (2020)	South Africa	Clinical	Mood Disorder Patients	107	26 males, 81 females; M = 37.04
Watson et al. (2014)	UK + New Zealand	Clinical vs. Community	BD + HC	115	BD: 53.3% male; M = 47.9; HC: 54.5% male; M = 45.1

Xie et al. (2018)	China	Clinical vs. Community	Patient + HC	679	Depression: 27 males, 102 females; M = 27.78
					Bipolar: 54 males, 48 females; M = 25.5
					Schizophrenia: 108 males, 108 females; M = 27.91
					HC: 54 males, 78 females; M = 27.86
Zhang et al. (2013)	China	Clinical	Patient	2,090	1354 males, 1721 females; M = 32

Notes. M = mean age, range = age range, BED = Binger Eating Disorder, OB = Obesity patient without BED, MMD = Major Depressive Disorder, BD = Bipolar Disorder, HC = Healthy Control. LGB = Lesbian Gay Bisexual, AD = Alcohol Dependent, AUD = Alcohol Use Disorder, BPD = Borderline Personality Disorder, SUD = Substance Use Disorder.

Supplementary Materials 5

Study Data on Childhood Psychological Maltreatment and Adult Mental Health Outcomes in English Studies

Authors (Year)	Methodology	Types of Abuse	Measurement of Emotional Abuse/Neglect	Measurement of Various Mental Health Outcomes	Perpetrator of the Maltreatment	Age at Exposure to Maltreatment
Personality Disorder						
Bernstein et al. (1998)	Questionnaire	SA, PA, PN, EA, EN	CTQ-SF	PDQ-R	Parents / Caregivers	Before 18y
Cohen et al. (2013)	Questionnaire	SA, PA, PN, EA, EN	CTQ-SF, MNBS, CTSPC-CA	PDQ	Parents / Caregivers	Before 18y
Cohen et al. (2014)	Questionnaire	SA, PA, PN, EA, EN	CTQ-SF, MNBS, CTSPC-CA	PDQ	Parents / Caregivers	Before 18y
Goodman et al. (2014)	Questionnaire & Interview	SA, PA, PN, EA, EN	CTQ-SF	RSQ, SCID-II	Parents / Caregivers	Before 18y

Waxman et al. (2014)	Questionnaire & Interview	SA, PA, PN, EA, EN	CTQ		AUDADIS-IV, NESARC, DSM-IV	Parents / Caregivers	Before 18y

Eating Disorder

Amianto et al. (2018)	Questionnaire	SA, PA, PN, EA, EN	CTQ-SF		TCI, EDI-2, BES, STAXI, SCL-90, BDI-II, ASQ, PBI	Parents / Caregivers	Before 18y
Kent et al. (1997)	Questionnaire	SA, PA, EA	CATS		HADS, DES, EDI	Parents	Before 14y

Psychological Symptoms

Abajobir et al. (2017)	Questionnaire & Interview	SA, PA, PN, EA, EN	FYCCQ		Achenbach's YASR Behaviours Checklist, CBCL	Parents / Caregivers	Before 14y

Dias et al. (2015)	Questionnaire	SA, PA, PN, EA, EN	CTQ-SF	BSI	Parents or adults in the same household	Before 18y
Fung, Chung, & Ross (2020)	Questionnaire	PA, SA, PN, EA, EN, parental separation or divorce, mother treated violently, household substance abuse, mental illness in household, criminal house member	ACE	PHQ-9, GAD-7, PCT, DDIS-BPD, SDQ-5	Parents / Caregivers	Before 18y
Haferkamp et al. (2015)	Questionnaire	SA, PA, EA, EN	CTQ	PTSD (DSM-IV), DES	Parents / Caregivers	Before 18y

O Laoide et al. (2018)	Questionnaire	SA, PA, PN, EA, EN	CTQ-SF	CDS, ECR-RS, AEE, DASS-21	Parents / Caregivers	Before 18y
Sheikh, Abelsen, & Olsen (2016)	Questionnaire	Psychological abuse, PA	CTEs	SCL-10, EQ-5D, SWLS	Parents / Caregivers	Before 18y
Taillieu et al. (2016)	Questionnaire & Interview	SA, PA, PN, EA, EN	ACE	AUDADIS	Parents / Caregivers	Before 18y
van Duin et al. (2019)	Questionnaire	SA, PA, PN, EA, EN	CTQ-SF	ACE, ASR	Parents / Caregivers	Before 18y
Suicide Ideation / Attempts						
Allen et al. (2013)	Questionnaire	PA, psychological abuse, neglect	CCMS	ILASC, PAI	Primary maternal / paternal caregivers, another older adolescent / adult	Before 18y

Gibb et al. (2001)	Questionnaire	PA, SA, EA	LEQ	CSQ, ASD, BDI, HS, SCL-90, SADS-C	Parents / Caregivers	Before 15y
Briere et al. (2016)	Questionnaire	SA, PA, EA	TES	DAPS	Parents / Caregivers	Before 18y
Buser & Hackney (2012)	Questionnaire	EA	EASE-PI	ASQ-GU, FASM	Parents / Caregivers	Before 18y
de Mattos Souza et al. (2016)	Questionnaire & Interview	SA, PA, PN, EA, EN	CTQ-SF	MINI Plus, ASSIST	Parents / Caregivers	Before 18y
Janiri et al. (2015)	Questionnaire	SA, PA, PN, EA, EN	CTQ-SF	YMRS, HDRS, HARS	Parents / Caregivers	Before 18y
Falgares et al. (2018)	Questionnaire + Screening	Parental loss, reference figures in childhood, parental care (antipathy and neglect), PA, SA, EA	CECA	DEQ, SHSS	Parents	Before 17y

Harford et al. (2014)	Questionnaire + Interview	PA, SA, EA	ACEs	Violence Indicators, Suicidal attempt, AUDADIS-IV	Parents or adults in the same household	Before 18y
Lee (2015)	Questionnaire & Interview	SA, PA, EA	ETISR-SF	PHQ-9, MINI	Parents / Caregivers	Before 18y
Thompson et al. (2000)	Questionnaire	SA, PA, PN, EA, EN	CTQ	NWS PTSD Module	Parents	Before 18y
Puzia et al. (2013)	Questionnaire	SA, PA, PN, EA, EN	CTQ-SF	INQ, BSS	Parents / Caregivers	Before 18y
Saracli et al. (2016)	Questionnaire	SA, PA, PN, EA, EA	CTQ-SF	SPS, BDI, BAI	Parents / Caregivers	Before 18y
Smith et al. (2018)	Questionnaire & Interview	PA, SA, EA	CTQ-SF	INQ, ACSS, BDI-II, SITBI	Parents or adults in the same household	Before 18y

Substance Abuse

Aas et al. (2014)	Questionnaire + Interview	SA, PA, PN, EA, EN	CTQ-SF	DIGS for French patient, Structured Clinical SCID-I for Norwegian patient	Parents or adults in the same household	Before 18y
Abajobir et al. (2017)	Questionnaire + Interview	SA, PA, PN, EA, EN	FYCCQ	Asking whether the respondents had ever injected illicit drug	Parents / Caregivers	Before 14y
Afifi et al. (2012)	Questionnaire + Interview	SA, PA, PN, EA, EN	CTQ	AUDADIS-IV	Parents / Caregivers	Before 18y

Can et al. (2019)	Questionnaire + Screening	SA, PA, PN, EA, EN	CTQ-SF	YSQ-SF, MAST	Parents or adults in the same household	Before 18y
Crouch et al. (2018)	Questionnaire	Household mental illness, Household substance abuse, household incarceration, parental separation/divorce, witnessing household violence, PA, SA, EA	ACE	Asking "Considering all types of alcoholic beverages, how many times during the past 30 days did you have five or more drinks for men or four or more drinks for women on occasion?"	Parents or adults in the same household	Before 18y

Elliott et al. (2014)	Interview	SA, PA, PN, EA, EN	AUDADIS-IV	AUDADIS-IV	Parents / Caregivers	Before 18y
Florez et al. (2020)	Questionnaire + Screening	PA; SA; EA	CTQ-SF	DTS, bMAST	Parents or adults in the same household	Before 18y
Junglen et al. (2019)	Questionnaire	Study 1: EA Study 2: SA, PA, PN, EA, EN	Study 1: LSC-R Study 2: CTQ-SF	PCL-C, SIP-AD, UPPS Impulsive Behaviour Scale	Parents / Caregivers	study 1: EA was 14.39y (SD = 10.28)
Mandavia et al. (2016)	Questionnaire	SA, PA, EA	CTQ, TEI	EDS, AUDIT	Parents / Caregivers	Before 18y
Potthast et al. (2014)	Questionnaire + Interview	SA, PA, PN, EA, EN	CTQ	AUDIT PDS, BDI, SCID-I, SPS/SIAS, BSL-23	Parents / Caregivers	Before 18y

Yuan et al. (2014)	Questionnaire + Interview	SA, PA, PN, EA, EN	CTQ-SF	M.I.N.I version 5.0	Parents or adults in the same household	Before 18y

Depression & Anxiety

Arnow et al. (2011)	Questionnaire	SA, PA, PN, EA, EN	CTQ-SF	PHQ	Parents / Caregivers	Before 18y
Balsam et al. (2010)	Questionnaire	PA, SA, EA	CTQ-SF	ESDC, PHQ, GAD-7, PSS-SF, PTSD-CV	Parents or adults in the same household	Before 18y
Brown et al. (2016)	Questionnaire	SA, PA, PN, EA, EN	CTQ-SF	TAS-20, SMFQ, GAD-7, UCLA Loneliness Scale	Parents or adults in the same household	Before 18y
Christ et al. (2019)	Questionnaire	SA, PA, EA	CTQ-SF	QIDS-SR, DERS, IIP-32	Parents / Caregivers	Before 18y
Crow et al. (2014)	Questionnaire	SA, PA, PN, EA, EN	CTQ-SF	EDS, BDI-II	Parents / Caregivers	Before 18y

Ferguson & Dacey (1997)	Questionnaire	Physical trauma, sexual trauma, psychological trauma	CEQ		STAI, BDI, DES	Parents	Before 18y
Gong & Chan (2018)	Questionnaire	SA, PA, PN, EA, EN	CTQ-SF		EMSs, SDS, SAS	Parents / Caregivers	Before 18y
Huh et al. (2017)	Questionnaire + Interview	SA, PA, PN, EA, EN	CTQ-SF		CERQ, BDI, STAI, MINI	Parents / Caregivers	Before 18y
Massing-Schaffer et al. (2015)	Questionnaire & Interview	SA, PA, PN, EA, EN	CTQ-SF		SADS-I, BDI, FSQ, RSS, RSQ	Parents / Caregivers	Before 18y
McCabe et al. (2018)	Questionnaire	PA, SA, EA	Violence Assessment developed for a previous randomized trial with Latinas		ESDC, RCTS-SF	Parents or adults in the same household	Before 18y

Novelo et al. (2018)	Questionnaire	SA, PA, PN, EA, EN	CTQ-SF	GDS	Parents / Caregivers	Before 18y
O'Mahen et al. (2015)	Questionnaire & Interview	SA, PA, PN, EA, EN	CTQ-SF	SCID, EPDS, BDI, RRS, BADS	Parents / Caregivers	Before 18y
Ross & Kaminski, & Herrington (2019)	Questionnaire	SA, PA, PN, EA, EN	CTQ-SF	26-items Self-Compassion Scale, ISS, CESD-R	Parents / Caregivers	Before 18y
Sunley et al. (2020)	Questionnaire	SA, PA, EN, psychological abuse	4-items NEMESIS Childhood Trauma Scale	PHQ-9	Parents / Caregivers	Before 16y
Wright, Crawford, & Del Castillo (2009)	Questionnaire + Screening	SA, PA, PN, EA, EN	LEQ	CAST-6, TSC-40, YSQ	Parents / Caregivers	Before 15y

Wu et al. (2018)	Questionnaire	SA, PA, PN, EA, EN	CTQ-SF	SCS, TDS, Gratitude Questionnaire-Six	Parents	Before 18y

Psychological Maltreatment in Clinical Population

Bruni et al. (2018)	Questionnaire & Interview	Psychological Abuse, SA, PA	CECA	SCID-I	Parents / Caregivers	Before 17y
Etain et al. (2010)	Questionnaire & Interview	SA, PA, PN, EA, EN	CTQ-SF	MADRS, MRS	Parents / Caregivers	Before 18y
Evren et al. (2010)	Questionnaire + Screening + Interview	SA, PA, PN, EA, EN	CTQ-SF	CAPS, DES, MAST, The SF-36	Parents / Caregivers	Before 18y
Evren et al. (2016)	Questionnaire	SA, PA, PN, EA, EN	CTQ-SF	ASRS, PCL-C	Parents / Caregivers	Before 18y
Fowke, Ross, & Ashcroft	Questionnaire	SA, PA, PN, EA, EN	CTQ-SF	HADS, ISS	Parents / Caregivers	Before 18y

(2012)						
Hariri et al. (2015)	Questionnaire & Interview	SA, PA, PN, EA, EN	CTQ-SF	HDRS, YMRS, HARS, DSM-IV for BD	Parents / Caregivers	Before 18y
Jaworska-Andryszewska et al. (2018)	Questionnaire	SA, PA, PN, EA, EN	CTQ-SF	HDRS, YMRS	Parents / Caregivers	Before 18y
Kefeli et al. (2018)	Questionnaire	SA, PA, PN, EA, EN	CTQ-SF	DES, SDQ, TAS-20, DASS-21, ECR-R	Parents / Caregivers	Before 18y
Khosravani, et al. (2019)	Questionnaire	SA, PA, PN, EA, EN	CTQ-SF	DERS, OCDUS, BDI-II	Parents / Caregivers	Before 18y
Kounou et al. (2013)	Questionnaire	SA, PA, PN, EA, EA	CTQ-SF	PDQ	Parents / Caregivers	Before 18y

Kruger et al. (2017)	Questionnaire	EA, EN, SA, bodily threat, sexual harassment	TEC	DES, MID	Multiple Perpetrators	Before 18y
Kulacaoglu et al. (2017)	Questionnaire	SA, PA, PN, EA, EN	CTQ-SF	ASRS, BIS-11, DIS-Q	Parents / Caregivers	Before 18y
Mirhashem et al. (2017)	Questionnaire & Interview	SA, PA, PN, EA, EN	CTQ-SF	SIPS-R, ASI-Lite, SUPPS-P, PCL-5, SCID, MINI	Parents / Caregivers	Before 18y
Neumann (2017)	Questionnaire	SA, PA, PN, EA, EN	CTQ-SF	SCL-90-R, ECR	Parents / Caregivers	Before 18y
Ostefjells et al. (2017)	Questionnaire	SA, PA, PN, EA, EN	CTQ-SF	PANSS, GAF, MCQ-30	Parents / Caregivers	Before 18y
Pavlova et al. (2015)	questionnaire	SA, PA, PN, EA, EN	CTQ-SF	MINI	Parents / Caregivers	Before 18y

Price & Connor, & Allen (2017)	Questionnaire + Interview	SA, PA, PN, EA, EN	CTQ-SF	ASI-Lite, PCL-5, SCID-I	Parents / Caregivers	Before 18y
Russo et al. (2013)	Questionnaire + Interview	SA, PA, PN, EA, EN	CTQ-SF	SCID-I, IGT, AGNG	Parents / Caregivers	Before 18y
Sar & Islam, & Ozturk (2009)	Questionnaire + Interview	SA, PA, PN, EA, EN	CTQ-SF	DDIS, DES, SDQ, CADSS, STAI	Parents / Caregivers	Before 18y
Schulz et al. (2017)	Questionnaire	SA, PA, PN, EA, EN	CTQ	BDI-II, PSDI, EAQ, MADRS	Parents / Caregivers	Before 18y
Ventimiglia et al. (2020)	Questionnaire	SA, PA, PN, EA, EN	CTQ-SF	LEC, QIDS, ASRM	Parents or adults in the same household	Before 18y
Watson et al. (2014)	Questionnaire	SA, PA, PN, EA, EN	CTQ-SF	NART, HDRS-17, diagnosis of	Parents / Caregivers	Before 18y

DSM-IV melancholia, length of the current depression episode (weeks), number of previous hospitalisations, current alcohol intake, diagnosis of rapid cycling BD, history of suicide attempt, and any form of current suicidal

				ideation reported to the assessor		
Xie et al. (2018)	Questionnaire & Interview	SA, PA, PN, EA, EN	CTQ-SF	SSRS, SIOSS, ICD-10	Parents / Caregivers	Before 18y
Zhang et al. (2013)	Questionnaire & Interview	SA, PA, PN, EA, EN	CTQ-SF	DSM-IV	Parents / Caregivers	Before 18y

Notes. Notes. M = Mean Age, Range = Age Range, SA = Sexual Abuse, PA = Physical Abuse, PN = Physical Neglect, EA = Emotional Abuse, EN = Emotional Neglect, CTQ-SF = Childhood Trauma Questionnaire-Short Form, PDQ-R = Personality Diagnostic Questionnaire-revised, CTQ = Childhood Trauma Questionnaire, MNBS= Multidimensional Neglectful Behaviour Scale, CTSPC-CA= Conflict Tactics Scale Parent Child-Child Adult, PDQ = Personality Disorder Questionnaire, RSQ = Adult Rejection Sensitivity Questionnaire, SCID-II = Structured Clinical Interview for DSM-IV Axis Personality Disorder-Self Report, AUDADIS-IV = The Alcohol Use Disorder and Associated Disabilities Interview Schedule-IV, NESARC = The National Epidemiological Survey on Alcohol and Related Condition, DSM-IV = The Diagnostic and Statistical Manual of Mental Disorders, BPD = Borderline Personality Disorder, BED = Binger Eating Disorder, HC = Healthy Subjects, TCI = Temperament and Character Inventory, EDI-2 = Eating Disorder Inventory-2, BES = Binge Eating Scale, STAXI = State-Trait Anger Expression Inventory, SCL-90 = Symptom Checklist, BDI-II = Beck Depression Inventory-II, ASQ = Attachment Style Questionnaire, PBI = Parental Bonding Instrument, CATS = Childhood Abuse and Trauma Scale, HADS = Hospital

Anxiety and Depression Scale, DES = Dissociative Experiences Scale, EDI = Eating Disorder Inventory, FYCCQ = Youth and Community Care Queensland, CBCL = Child Behaviour Checklist, BSI = Brief Symptom Inventory, ACE = Adverse Childhood Experiences, PHQ-9 = Patient Health Questionnaire, GAD-7 = Generalized Anxiety Disorder 7-items, PCL = Post Traumatic Stress Disorder Checklist, DDIS-BPD = Borderline Personality Disorder Section of the Dissociative Disorders Interview Schedule, SDQ-5 = Somatoform Dissociation Questionnaire, CDS = Cambridge Depersonalization Scale, ECR-RS = The Experience in Close Relationships-Relationship Structures Questionnaire, AEE = The Attitudes toward Emotional Expression, DASS-21 = The Depression, Anxiety, and Stress Scale, CTEs = Childhood Traumatic Experiences, SCL-10 = Hopkins Symptoms Checklist-10, EQ-5D = included mobility; self-care; usual activities; pain/discomfort; and anxiety/depression, SWLS = The *Satisfaction With Life Scale,* ASR = Adult Self-Reporting, MDD = Major Depressive Disorder, BD = Bipolar Disorder, CCMS = Comprehensive Child Maltreatment Scale, LASC = Inventory of Altered Self-Capacities, PAI = Personality Assessment Inventory, LEQ = Lifetime Experiences Questionnaire, CSQ = Cognitive Style Questionnaire, ASD = Attributional Style Questionnaire, BDI = Beck Depression Inventory, HS = Beck Hopelessness Scale, SADS-C = Schedule for Affective Disorder and Schizophrenia-Change version, TES = Traumatic Experiences Scale, DAPS = Detailed Assessment of Posttraumatic Stress, EASE-PI = Exposure to Abusive and Supportive Environments Parenting Inventory, ASQ-GU = Attributional Style Questionnaire for General Use, FASM = Functional Assessment of Self-Mutilation, MINI-Plus = *Mini*-International Neuropsychiatric Interview-Plus (included panic disorder, social phobia, OCD, PTSD, and/or generalized anxiety disorder, suicide attempting, suicidal ideation), ASSIST = Alcohol, Smoking, and Substance Involvement Screening Test, YMRS = Young Mania Rating Scale, HDRS = Hamilton Depression Rating Scale,

HARS = Hamilton Anxiety Rating Scale, CECA= Childhood Experience of Care and Abuse Questionnaire, DEQ = Depressive Experience Questionnaire, SHSS = Suicidal History Self-Rating Screening Scale, ETISR-SF = Early Trauma Inventory Self Report-Short Form, MINI = Mini International Neuropsychiatric Interview, NWS = National Women's Study, PTSD = Posttraumatic Stress Disorder, INQ = The interpersonal Needs Questionnaire, BSS = Beck Scale for Suicide Ideation, SPS = Suicide Probability Scale, BAI = Beck Anxiety Inventory, ACSS = Acquired Capability foe Suicide Scale, SITBI = Self-Injurious Thoughts and Behaviours Interview, DIGS = Diagnostic Interview for Genetic Studies, SCID-I = Structured Clinical Interview for DSM-IV Axis I Disorder, YSQ-SF = Young Schema Questionnaire-Short Form, MAST = Michigan Alcoholism Screening Test, DTS = Davidson Trauma Scale, bMAST = Brief Michigan Alcoholism Screening Test, LSC-R = Life Stressor Checklist-Revised, SIP-AD = Short Inventory of Problem-Alcohol and Drugs, PCL-C = PTSD checklist-Civilian, TEI = Traumatic Events Inventory, EDS = Emotional Dysregulation Scale, AUDIT = Alcohol Use Disorder Identification Test, PDS = Posttraumatic Stress Diagnostic Scale, SPS/SIAS = Social Phobia Scale/Social Interaction Scale, BSL-23 = Borderline Symptom List, PHQ = Patient Health Questionnaire, ESDC = Epidemiological Studies Depression Scale, PTSD-CV = PTSD Checklist-Civilian Version, PSS-SF = Perceived Stress Scale-Short Form, TAS-20 = Toronto Alexithymia Scale, SMFQ = Short Mood and Feeling Questionnaire, QIDS-SR = Quick Inventory of Depressive Symptoms, DERS = Difficulties in Emotion Regulation Scale, IIP-32 = Inventory of Interpersonal Problems, CEQ = Childhood Experiences Questionnaire, SATI = State-Trait Anxiety Inventory Form, EMSs = Early Maladaptive Schemas, SDS = The Zung Self-Rating Depression Scale, SAS = The Zung Self-Rating Anxiety Scale, CERQ = The Cognitive Emotion Regulation Questionnaire, SADS-I = The Schedule for Affective Disorders and Schizophrenia-Lifetime Interview, FSQ

= Feedback Seeking Questionnaire, RSS = Reassurance-Seeking Scale, RCRS-SF = Revised Conflict Tactics Scale-Short Form, GDS = the 15-items Geriatric Depression Scale, EPDS = *Edinburgh Postnatal Depression Scale,* RRS = Ruminative Responses Scales, BADS = Behavioural Activation for depression Scale, ISS = Internalized Shame Scale, CESD-R = the Centre for Epidemiological Studies Depression Scale-Revised, LEQ = Lifetime Experiences Questionnaire, CAST-6 = Children of Alcoholics Screening Test, TSC-40 = Trauma Symptom Checklist-40, YSQ = Young's Schema Questionnaire, SCS = Self-Compassion Scale, TDS = Trait Depression Subscale, AD = Alcohol Dependent, AUD = Alcohol Use Disorder, SUD = Substance Use Disorder, MADRS = Montgomery Asberg Depression Rating Scale, MRS = Mania Rating Scale, CAPS = Clinician Administered PTSD Scale, The SF-36 = The Short-Form 36 including general health, physical functioning, role limitation due to physical health, bodily pain, mental health, role limitation due to emotional problems, energy fatigue and social functioning, ASRS = Adult ADHD Self-report Scale, SDQ = Somatoform Dissociation Questionnaire, DASS = Depression Anxiety Stress Scale, ECR-R = Experiences in Close relationships-Revised, OCDUS = Obsessive Compulsive Drug Use Scale, TEC = Traumatic Experiences Checklist, MID = Multidimensional Inventory of Dissociation, BIS-11 = Barratt Impulsivity Scale-11, DIS-Q = Dissociation Questionnaire, SIPS-R = Short Inventory of Problems-Revised, ASI-Lite = Addiction Severity Index Lite, SUPPS-P = Short Form of the UPPS-P Impulsive Behaviour Scale, SCL-90-R = Symptoms Checklist-90-Revised, PANSS= Positive and Negative Syndrome Scale Score, GAF = Global Assessment of Functioning, MCQ-30 = Metacognition Questionnaire-30, IGT = evaluates processes underlying emotional decision-making, AGNG = measure inhibitory control in response to emotional stimuli, CADSS = Clinician-Administered Dissociative State Scale, DDIS = Dissociative Disorder Interview Schedule, STAI = Spielberger State-Trait Anxiety Scale, PSDI =

Personality Style and Disorder Inventory, EAQ = Emotion Acceptance Questionnaire, LEC = Life Event Checklist, QIDS = Quick

Inventory of Depressive Symptoms, ASRM = Altman Self-rating Mania Scale, NART = National Adult Reading Test (including BMI, pre-

morbid IQ), SSRS = Social Support Rating scale, SIOSS = Self-rating Idea of Suicide Scale, ICD-10 = International Statistical

Classification of Diseases and Related Health Problems-10, DSM-5 = The Diagnostic and Statistical Manual of Mental Disorders.

Supplementary Materials 6

Study Findings and Statistical Information of Childhood Psychological Maltreatment and Adult Mental Health Outcomes in English Studies

Author (Year)	Findings	Odd Ration / Adjusted odd ratio / Risk Ratio	Other Statistical Information
Personality Disorder			
Bernstein et al. (1998)	EA and EN predicted personality pathology among adult patient with substance use disorders.	N/A	*EA* significantly related with *PD* variables: Cluster A: r = .43, p ≤ .001. Cluster B1: r = .33, p ≤ .001 Cluster B2: r = .31, p ≤ .001

Cluster C: r = .36, p ≤ .001

Schizoid: r = .25, p ≤ .001

EN significantly related with *PD*

variables:

Cluster A: r = .21, p ≤ .001.

Cluster B1: r = .26, p ≤ .001

Cluster B2: r = .13, p ≤ .05

Cluster C: r = .23, p ≤ .001

Schizoid: r = .27, p ≤ .001

| Cohen et al. (2013) | Bivariate logistic regression analyses revealed each maltreatment types to significantly correlated with adult personality pathology. | There were significant differences between *low* and *high personality pathology* scores in *EA* (OR = 3.57, 95%CI = 1.75-7.28); when controlling for education and intercorrelations | N/A |

among trauma variables, only *EA* were significant predictor of *adult personality pathology* (aOR = 3.81, 95%CI = 1.62-8.96).

Cohen et al. (2014)	EA was associated with Cluster C personality disorder trait.	N/A	EA was associated with Cluster C personality disorder trait (*Beta* = 0.22, p =.001).
Goodman et al. (2014)	Greater ENA and rejection sensitivity have been independently associated with more BPD symptomatology.	A one-unit increase in *ENA* predicted *BPD* was .02 (RR = 1.02, 95%CI = .002-.03), a one-unit increase in *RS* predicted *BPD* was .04 (RR = 1.04, 95%CI = .01-.07). The *interaction term* was also significant predictors for BPD (RR = .007, 95%CI = -.005--.001).	ENA correlated with BPD symptoms (r = .282, p < .01)

Waxman et al. (2014)	EA and EN related to different types of personality disorders.	*EA* was associated with *borderline* (OR^1 = 1.53, 95%CI = 1.79), *narcissistic* (OR^1 = 1.49, 95%CI = 1.17-1.89) and *schizotypa*l (OR^1 = 1.40, 95%CI = 1.06-1.84) PDs. *EN* was associated with *avoidant* (OR^1 = 1.75, 95%CI = 1.26-2.42), *paranoid* (OR^1 = 1.33, 95%CI = 1.05-1.60) and *schizoid* (OR^1 = 1.66, 95%CI = 1.15-1.91) PDs.	N/A
Eating Disorder			
Amianto et al. (2018)	The relationships between EA and EN as independent variable with SCL-90 were significant in	N/A	SCL-90 total score related to EA (B = 0.474; t = 3.445; p < 0.001) and EN (B = 0.342; t = 3.291; p < 0.001).

	linear regression analysis for obese patient.		
Kent et al. (1997)	EA significantly associated with eating psychopathology, anxiety, dissociation and depression.	N/A	EA significantly associated with eating psychopathology (t = 1.91; p < .03), depression (t = 1.93; p < .03), anxiety (t = 1.79, p < .04) and dissociation (t = 3.82, p < .0001).

Psychological Symptoms

Abajobir et al. (2017)	Those who were EA and EN are more likely to have auditory and visual hallucinations.	EA (crude OR = 2.73, 95%CI = 1.55-4.83) and EN (crude OR = 3.26, 95%CI = 1.79-5.92) consistently showed increased risk of experiencing auditory hallucination in unadjusted analyses. Participants who	N/A

reported to have experienced EA were more likely to are more likely to have 12-months (aOR[1] = 5.83, 95%CI = 1.16-29.37) and lifetime (aOR[1] = 4.26, 95%CI = 1.17-15.54) psychotic.

Dias et al. (2015)	EA overlapped with the exposure to all other CM forms, and interacted with PA, PN, and EN to predict psychological distress.	N/A	EA was the strongest predictor for psychological symptoms, namely for paranoid ideation (β = .357, p < .000), phobic anxiety (β = .185, p < .000), depression (β = .318, p < .000), interpersonal sensitivity (β = .353, p < .000), psychological distress (β = .324, p < .000), somatization (β = .193, p < .000), obsession (β = .257, p

< .000), hostility (*β* = .266, p

< .000) and psychosis (*β* =. 292, p

< .000).

Fung, Chung, & Ross (2020)	Mental health screening scores: EA and EN > EA or EN, EA or EN > no EA and EN.	N/A	When controlling PA, SA and PN, EA correlated with PHQ-9 (r = .165), GAD-7 (r = .170), PCL (r = .246), DDIS-BPD (r = .224) and SDQ-5 (r = .124), while EN correlated with PHQ-9 (r = .350), GAD-7 (r = .319), PCL (r = .366), DDIS-BPD (r = .359) and SDQ-5 (r = .158).
Haferkamp et al. (2015)	A significant relationship with dissociative symptoms was found for EA.	N/A	EA correlated with dissociative symptoms (*b* = .91, SD = .29, *β* = .30, t = 3.15, p < .01).

O Laoide et al. (2018)	EM correlated with psychological distress. Depersonalization correlated with EA and EN.	The association between EM and DP was significant (OR = 1.06, 95%CI = 1.04-1.09).	EM correlated with depression (r = .43), anxiety (r = .38) and stress (r = .38). DP correlated with EN (r = .37) and EA (r = .35). In multiple regression, the overall model was significant, F (5, 760) = 28.68, p = .00. EN and EA were the only two significant predictors of DP, where EN predicted 22% of the variance (β = .22, t = 4.33, p = .00) and EA predicted 21% (β = .21, t = 4.15, p = .00).
Sheikh, Abelsen, & Olsen (2016)	Psychological abuse was most important for mental health in adulthood.	N/A	Independent association between psychological abuse and mental

health (β = .05, 95%CI = 0.036-0.063).

| Taillieu et al. (2016) | Experiencing EA and EN increased the likelihood for mental health problem. | Experiencing EN was associated with increased odds for depression (aOR[1] = 1.3, 99%CI = 1.1-1.6), dysthymia (aOR[1] = 1.2, 99%CI = 1.0-1.5) and social phobia (aOR[1] = 1.4, 99%CI = 1.1-1.7). Experiencing EA was associated with significantly higher odds of a lifetime diagnoses borderline personality disorder (aOR[1] = 1.6, 99%CI = 1.1-2.4), narcissistic personality disorder (aOR[1] = 1.5, 99%CI = 1.1-2.2), any Cluster B disorder | N/A |

		$(aOR^1 = 1.4, 99\%CI = 1.1\text{-}1.9)$, OCD $(aOR^1 = 1.5, 99\%CI = 1.0\text{-}2.1)$ and any Axis II disorder $(aOR^1 = 1.4, 99\%CI = 1.1\text{-}1.8)$.	
van Duin et al. (2019)	EN and EA correlated with internalizing problems.	N/A	EN $(B = 9.372, p < .001, SE\ B = 2.639)$ and EA $(B = 7.025, p < .001, SE\ B = 2.363)$ correlated with internalizing problems.

Suicide Ideation / Attempts

Allen et al. (2013)	The overall EA mediation model on adult suicide potential was significant.	N/A	The overall EA mediation model was significant, $F\ (9,249) = 52.96, p < .001, R^2 = .65$. EA was positively associated with suicide risk $(\beta = 1.39, p < .001)$ and SPI $(r = .35, p < .001)$ and aggression $(r = .33, p < .001)$.

Gibb et al. (2001)	Participants who reported more EA in childhood also endorsed higher average level of suicidal ideation during 2.5y follow-up study.	N/A	EA associated with suicidal ideation [t (293) = 3.71, p < .001, β = .25].
Briere et al. (2016)	Only EA is associated with suicidal ideation.	N/A	In multinomial logistic regression analysis, as compared with non-suicidal participants, EA were associated with recent suicide attempts (x^2 = 15.60, p < .001), whereas recent suicidal ideation without attempts was predicted solely by EA.
Buser & Hackney (2012)	EA was significantly related to frequency of NSSI.	N/A	EA was significant associated with the frequency of NSSI (r = .31, p < .001), while age was

found in a significant relationship only with EA (r = -.153, p < .01) and NSSI frequency (r = -.21, p < .001).

de Mattos Souza et al. (2016)	Suicide risk presented significant association with EA and EN.	Logistic regression present *EA* associated with *suicide risk* in MDD patient (OR = 1.07, 95%CI = 1.03-1.12, p = .003).	*MDD patients* also reported mean scores of higher scores of *EN* (p = .004) and *EA* (p = .001), 2.6 and 2.1 respectively.
Janir et al. (2015)	BD have higher scores on EA than HC and suicide attempts was linked to EA in BD groups.	In the multivariate logistic regression only *EA* significantly predicted *lifetime suicide attempts*. Specifically, the odds (OR = 1.31, 95%CI = 1.10-1.57, p = .0019) of belonging to the group of BD patients who attempted suicide explained	*BD I* (M = 39.12, SD = 12.12) and *BD II* (M = 40.89, SD = 10.75) have higher *EA scores* than healthy control group (M = 33.09, SD = 7.34) (F = 13.27, df =2, p = .02). *Suicide attempt* was linked to *EA* in both BD I (F =

		18.5% of the variance (R^2) of the dependent variable.	8.42, df = 1, p = .0053) and BD II (F = 17.13, df = 1, p = .0002).
Falgares et al. (2018)	Psychological abuse related to propensity for suicide.	N/A	Psychological abuse related to propensity for suicide (r = .54, p < .001)
Harford et al. (2014)	EN was significantly related to SA EN related to SA with IP.	EN was significantly related to SA (OR = 1.72, 95%CI = 1.39-2.12, p < .01), while EN related to SA with IP (OR = 1.38, 95%CI = 1.11-1.72, p < .01). When adjusted for gender, age, race/ethnicity and marital status: For SA only: EA (OR = 1.42, 95%CI = 1.08-1.88), EN (OR = 1.72, 95%CI = 1.39-2.12).	N/A

		For SA with IP: EA (OR = 1.56, 95%CI = 1.14-2.14, p < .01), EN (OR = 1.38, 95%CI = 1.11-1.72).	
Lee (2015)	EA had significantly positive correlations with suicidality and depressive symptoms.	N/A	EA had significantly positive correlations with suicidality (r = .232, p < .001), and depressive symptoms (r = .236, p < .001).
Thompson et al. (2000)	There were significant differences between suicide attempt group and control group on emotional abuse (x^2=26.75, p<.001) and emotional neglect (x^2=30.54, p<.001).	Women with both EM and PTSD predicted SA (OR = 5.67, 95%CI = 2.74-11.74). Women with no PTSD and history of EM predicted SA (OR = 2.22, 95%CI = 1.19-4.11). Women with PTSD and no EM predicted SA (OR = 2.90, 95%CI = 1.24-6.78).	There were significant differences between suicide attempt group and control group on emotional abuse (x^2 = 26.75, p < .001) and emotional neglect (x^2 = 30.54, p < .001).

		Women with EN and PTSD predicted SA (OR = 6.77, 95%CI = 3.12-14.64).	
Puzia et al. (2013)	EA was found to be prospectively associated with suicidal ideation.	EA was associated with suicidal ideation (OR = 1.22, 95%CI = 1.11-1.35).	EA was positively associated with perceived burdensomeness, even after accounting for the presence of PA and SA. (B = .091, p < .001, $R_{effect\ size}$ = .348).
Saracli et al. (2016)	Participants who experienced EA or EN are more likely to had suicide ideation or suicide attempts.	Only EA exhibited a significantly high odds ratio for lifetime suicidal ideations (OR = 3.168, 95%CI = 1.73–5.80) and attempts (OR = 3.467, 95% CI = 1.34–8.95). EN showed a high odds ratio only for lifetime suicidal	N/A

		attempts (OR = 3.282, 95% CI = 1.29–8.37).	
Smith et al. (2018)	EA did not associate with acquired capability for suicide.	N/A	EA was significantly associated with thwarted belongingness (r = .69, p < .001), depressive symptoms (r = .79, p < .001), perceived burdensomeness (r = .72, p < .001).
Substance Abuse			
Aas et al. (2014)	Cannabis abuse was significantly associated with childhood emotional abuse in bipolar disorder patient. No statistically significant association between alcohol dependence and childhood abuse.	Frequently of report *rapid cycling* (OR = 1.61, 95%CI = 1.13-2.30) and report of a history of at least one *suicide attempt* (OR = 1.88, 95%CI = 1.34-2.63) in the group of childhood emotional abuse compared with all other groups.	Cannabis abuse and EA (x^2 = 8.63, df = 1, p = .003).

Abajobir et al. (2017)	EA in both male and female were associated with injecting drug use.	EA were significantly associated with *male IDU* (aOR^a = 2.51, 95%CI = 1.05-5.98) and *female IDU* (aOR^a = 3.02, 95%CI = 1.30-6.97).	EA (male) and IDU (x^2 = 7.71, p < .001). EA (female) and IDU (x^2 = 17.59, p < .0001).
Afifi et al. (2012)	EA increased the likelihood of all substance use disorders. EN associated with all substance abuse disorders after adjusting for sociodemographic variables.	Male (emotional abuse vs. non-EA) *Alcohol* (aOR^b = 2.1, 99%CI = 1.7-2.6) *Cannabis* (aOR^b = 2.6, 99%CI = 1.7-2.5) *Heroin* (aOR^b = 4.7, 99%CI = 2.7-12.8) *Nicotine* (aOR^b = 2.2, 99%CI = 1.8-2.8)	N/A

Female (emotional abuse vs. non-EA)

Alcohol (aOR[b] = 2.1, 99%CI = 1.7-2.5)

Cannabis (aOR[b] = 2.4, 99%CI = 1.8-3.0)

Heroin (aOR[b] = 3.0, 99%CI = 0.9-9.5)

Nicotine (aOR[b] = 2.4, 99%CI = 2.0-2.9)

Male (emotional neglect vs. non-EN)

Alcohol (aOR[b] = 1.3, 99%CI = 1.0-1.6)

Cannabis (aOR[b] = 1.7, 99%CI = 1.7-2.2)

Heroin (aOR[b] = 2.9, 99%CI = 1.0-8.3)

Nicotine (aOR[b] = 1.5, 99%CI = 1.2-1.8)

Female (emotional neglect vs. non-EN)

Alcohol (aOR[b] = 1.5, 99%CI = 1.3-1.8)

Cannabis (aOR[b] = 2.0, 99%CI = 1.5-2.5)

Heroin (aOR[b] = 3.3, 99%CI = 1.0-11.0)

Nicotine (aOR[b] = 1.4, 99%CI = 1.2-1.6)

Can et al. (2019)	EA scores were higher in alcohol use disorder group, the mediating role of enmeshment, emotional inhibition, dependence, and insufficient self-control schemas in the relationship between EA and AUD was determined. However, EN did not associated with AUD.	The relation between *EA* and *AUD* was statistically significant (OR = 0.186, 95%CI = 0.085-0.267). When added *dependence* into the model, *EA* and *AUD* was still significant (OR = 0.107, 95%CI = 0.016-0.199).	The relationship between EA and AUD (r = .219, p < .01). EA scores in AUD (Partial η^2 = 0.07, p < .001).
Crouch et al. (2018)	Both men and women EA associated with alcohol abuse (heavy drinking and binge drinking), EA increase the likelihood of adulthood alcohol abuse.	*Binge drinking* associated with *women EA* (aOR[c] =1.42, 95% CI=1.40-1.43) and *men EA* (aOR[c] = 1.03, 95%CI = 1.02-1.04). *Heavy drinking* associated with *women EA* (aOR[c] = 1.83, 95%CI	N/A

= 1.79-1.87) and m*en EA* (aOR[c]

= 0.68, 95%CI = 0.67-0.69).

| Elliott et al. (2014) | Controlling for demographics the association between EA and EN and persistence of alcohol dependence and nicotine dependence was significant. With other childhood adversities controlled, the association between EA and EN and persistence of alcohol dependence was also significant. | Controlling for demographic: *Persistence of alcohol dependence* associated with *EA* (aOR = 1.90, 95%CI = 1.30-2.79) and *EN* (aOR = 1.30, 95%CI = 0.80-2.10). *Persistence of nicotine dependence* associated with *EA* (aOR = 1.74, 95%CI = 1.44-2.11) and *EN* (aOR = 1.00, 95%CI = 0.79-1.27). Controlling for demographic and other childhood adversities: | N/A |

Persistence of alcohol dependence associated with *EA* (aOR = 1.97, 95%CI = 1.33-2.90) and *EN* (aOR = 1.31, 95%CI = 0.81-2.12).

Persistence of nicotine dependence associated with *EA* (aOR = 1.72, 95%CI = 1.42-2.09) and *EN* (aOR = 0.99, 95%CI = 0.78-1.25).

Florez et al. (2020)	EA did not have a total or a direct effect on alcohol misuse; however, childhood emotional abuse was a significant predictor of PTSS in several model.	N/A	*EA* was a significant predictor of this *PTSS* indicator in the model in which *PTSS* severity served as mediator (*B* = 3.59, SE = 1.04, 95%CI = 1.53-5.66); *avoidance* as mediator (*B* = 1.26, SE = 0.47,

95%CI = 0.33-2.19);

hyperarousal as mediator (*B* = 1.02, SE = 0.36, 95%CI = 0.30-1.74); and *re-experiencing/intrusion* as mediator (*B* = 1.27, SE = 0.34, 95%CI = 0.60-1.94).

| Junglen et al. (2019) | EA was associated substance use problems and PTSD symptom severity. | N/A | *EA* associated with *substance use problem* (b = 2.09, CI [0.21, 4.10]) and *PTSD symptoms severity* (b = 10.61, CI [7.03, 14.54]). On the relationship between *EA* and *substance use*, negative urgency (b = 0.81, CI [0.34, 1.56]) and *PTSD symptoms severity* (b = 1.57, CI [0.89, |

2.40]) was found to be a significant indirect effect.

Mandavia et al. (2016)	Lifetime alcohol use and lifetime drug use were correlated with emotional abuse severity. EA predicted higher alcohol use scores in linear regression model.	N/A	*Lifetime alcohol use* and *lifetime drug use* were correlated with *EA severity*. EA predicted *higher alcohol* use scores in linear regression model ($\beta = .20$, t = 6.48, p < .001).
Potthast et al. (2014)	EM contributed significantly to the severity of alcohol dependence.	N/A	Relationships between *EM* and *age at onset of alcohol dependence* (r = .51, p < .001, B = -.46, SE B = .15, β = -.35, p < .01), *lifetime maximal amount of alcohol intake* (r = .37, p < .01, B = 9.74, SE B = -173.95, β = .36, p < .01), *alcohol treatment*

			lifetime (r = .36, p < .001, B =.28, SE B=.08, β = .49, p < .001) were significant.
Yuan et al. (2014)	EA was significantly associated with increased risks of past-year drinking binger or spree for women.	*EA* associated with *drinking binge/spree* in women (OR[d] = 3.92, 95% CI = 1.22-12.62).	N/A
Depression & Anxiety			
Arnow et al. (2011)	EA associated with depression severity.	N/A	The effect size for the association between EA and depression was 1.84; thus, for every increase in EA severity, there was a corresponding 84% increase in the odds of depression.
Balsam et al. (2010)	EA and EN correlated with depression and anxiety among	N/A	EA correlated with PTSD (rs = .45), anxiety (rs = .33),

ethnically diverse lesbian, gay, and bisexual adults.

depression (rs = .33) and perceived stress (rs = .22). EA was the only predictor for perceived stress (Beta = .12, 95%CI = .05-.20) and depression (Beta = .40, 95%CI = .23-.57). EA was stronger predictor for anxiety (Beta = .45, 95%CI= .06- .84) and PTSD (Beta = 1.5, 95%CI = .32-2.68) for African American. EA was more strongly related to PTSD symptoms for African American (Beta = .73) than for Whites (Beta = .30).

| Brown et al. (2016) | EA and EN associated with depression and anxiety. | N/A | EA was the only form of maltreatment directly uniquely associated with symptoms of depression (path estimate = .18, p < .05) and anxiety (path estimate = .22, p < .05) when controlling for the variance associated with the other forms of abuse and alexithymia. EN was the only form of maltreatment uniquely associated with alexithymia (path estimate = .15, p < .05). The bias corrected bootstrap test of the indirect effects revealed that alexithymia partially accounted for the association between EN |

and depressive symptoms (B = .04, 95% CI = .003-.07), anxiety symptoms (B = .07, 95% CI = .01-.13).

Christ et al. (2019)	EA was significantly associated with depressive symptoms, emotion regulation and interpersonal problems.	N/A	EA was significantly associated with depressive symptoms (b = 0.38, t = 5.72, p < .001, R^2 = .11), emotion dysregulation (b = 1.14, t = 3.33, p = .001, R^2 = .04), and interpersonal problems (b = 1.13, t = 4.81, p < .001, R^2 = .08).
Crow et al. (2014)	EA and EN strongly related to adulthood depression.	N/A	EA was moderately correlated with both current emotion dysregulation (r = .39, p < .001) and current depression symptoms (r = .45, p < .001). EN was

			moderately correlated with both current emotion dysregulation ($r = .30$, $p < .001$) and current depression symptoms ($r = .37$, $p < .001$).
Ferguson & Dacey (1997)	Abused women reported higher level of depression and anxiety than non-abused women.	N/A	Abused women reported higher levels of anxiety ($d = 1.581$) and depression ($d = 1.55$) and greater frequency of dissociative experiences ($d = .771$) than non-abused women.
Gong & Chan (2018)	EA and EN had significant overall effect on depression and anxiety.	N/A	In the model with estimated standardized regression coefficient for the paths between childhood maltreatment and psychological distress, EA

(0.322) had the strongest overall effect on depression and anxiety of the five types of child maltreatment. It was followed in descending magnitude by EN (0.312), physical neglect (0.282), PA (0.122) and SA (0.114).

Huh et al. (2017)	EA and EN associated with depression.	N/A	Multiple mediation analysis of maladaptive and adaptive cognitive emotion regulation in relationship between EA→ maladaptive → anxiety severity (estimate = .120, $p < .01$, 95%CI = .037-.230), EN → maladaptive → anxiety severity (estimate = .091, $p < .01$, 95%CI

			= .027-.166); EN → adaptive → anxiety severity (estimate = .037, p < .01, 95%CI = .016-.070), and EN → adaptive → depression (estimate = .04, p < .01, 95%CI = .02-.081) was significant.
Massing-Schaffer et al. (2015)	EA was correlated with clinical depression among undergraduates.	N/A	EA was correlated with Time 1 history of clinical depression (r = .269, p < .001), Time 1 BDI-II (r = .302, p < .001), and Time 2 BDI-II (r = .444, p < .001).)
McCabe et al. (2018)	EA related to adulthood depression.	EA was significantly related to adulthood depression (OR = 2.19, 95%CI = .77-4.12, p = .015, Beta = .15, b = .79, SE = .32).	N/A

| Novelo et al. (2018) | EA and EN were associated with depression. | EA was significant associated with depression: cases (aOR[1] = 2.25, 95%CI = 1.35-3.75), mild to severe (aOR[1] = 1.74, 95%CI = 1.02-3.00), severe (aOR[1] = 4.35, 95%CI = 1.99-9.52). EN was significant associated with depression: cases (aOR[1] = 2.82, 95%CI = 1.70-4.69), mild to severity (aOR[1] = 2.82, 95%CI = 1.64-4.85), severe (aOR[1] = 3.06, 95%CI = 1.40-6.66). | N/A |

O'Mahen et al. (2015)	A path from EA to depressive symptoms that was mediated by brooding.	Behavioural activation completely mediated the relationship between EN and depression status (OR = 1.03, 95%CI = .91-1.16) and partially mediated the relationship between EA and depression status (OR = .86, 95%CI = .75-.98).	The overall model was significant, $F (5, 126) = 4.37$, $p <.001$. Of the five maltreatment factors considered in the model, emotional abuse was the only variable that predicted unique variance in brooding, $\beta (1) = .404$, $p = .005$. Greater childhood emotional abuse was related to greater brooding.
Ross, Kaminski, & Herrington (2019)	EA was significantly correlated with depression among adults.	N/A	EA positively predicted symptoms of depression ($\beta = .680$, $p < .001$, 95%CI = 0.54-0.73). A significant indirect path beginning with EA passing through self-compassion and

shame and ending in adult symptoms of depression (β = .084, p = .008, 95%CI = 0.03-0.13). An indirect path from emotional abuse to depression through shame (β = .089, p = .008, 95%CI = 0.01-0.15).

Sunley et al. (2020)	Psychological abuse and EN were found to be significant predictors for depressed mood.	EN (OR = 2.25, 95%CI = 2.01-2.52) and psychological abuse (OR = 1.72, 95%CI = 1.50-1.98) were found to be significant predictors of depressed mood in the main model. EN (OR = 2.41, 95%CI = 1.78-3.25) and psychological abuse (OR = 2.13, 95%CI = 1.52-2.98) were found	N/A

		to be significant predictors of depressed mood in the main and interaction model.	
Wright, Crawford, & Del Castillo (2009)	EA and EN correlated with depression/anxiety and dissociation.	N/A	EA correlated with anxiety/depression (r = .37, p < .01), and dissociation (r = .29, p < .01). EN correlated with anxiety/depression (r = .33, p < .01) and dissociation (r = .26, p < .01).
Wu et al. (2018)	EA was associated with depressive symptoms in both direct and indirect pathway.	N/A	EN was associated with adult depressive symptoms indirectly through self-compassion (ß =.088, p = .029, 95%CI = .02-.173) and 20 (ß = .133, p < .001, 95%CI = .07-.21).

Psychological Maltreatment in Clinical Population

Bruni et al. (2018)	Psychological abuse showed more frequently in SSD patient.	N/A	*Psychological abuse* was more frequent in *SSD* patient (x^2 = 29.986, p < .001).
Etain et al. (2010)	Frequency distributions between BD and controls were significantly different only for EA & EN	*EA* was associated with bipolar status when considering the most parsimonious model (OR = 2.14, 95%CI = 1.51–3.02, p < .001).	N/A
Evren et al. (2010)	Among childhood trauma types, EN and EA scores were higher in the current PTSD group.	N/A	There were significant differences between *PTSD* group and other patients' group in both *EA* (15.65 ± 4.50 vs. 12.17 ± 4.56) and *EN* (10.48 ± 5.00 vs. 7.71 ± 3.54), t = − 2.97, p = 0.003 and t = − 2.21, p = 0.041 respectively.

Evren et al. (2016)	EN was not correlated with PTSD and ADHD symptoms while EA was correlated with PTSD and ADHD symptoms.	N/A	*EA* was correlated with *PTSD* (r = .387, p < .001) and *ADHD* symptoms (r = .339, p < .001).
Fowke, Ross, & Ashcroft (2012)	BD group have higher scores on EA and EN.	N/A	More *EA* (U-test = 254.4, p < .001) and *EN* (U-test = 338.5, p = .001) in *BD* group.
Hariri et al. (2015)	All BD subjects, EN was the highest scores among other CTQ items.	N/A	Comparison of the *EA* (F = 4.081, p = .018) and *EN* (F = 3.997, p = .020) scores between *BD* and *HC*.
Jaworska-Andryszewska et al. (2018)	The connection between EN and suicidal attempts in female was significant.	*EA* correlated with *psychotic symptoms* (OR = 1.22, 95%CI = 1.04-1.43, p = .047), *suicidal attempts* (OR = 1.14, 95%CI = 1.0-1.29, p = .047), *rapid cycling*	N/A

(OR = 1.24, 95%CI = 1.07-1.43,

p = .004), *anxiety symptoms* (OR

= 1.16, 95%CI = 1.07-1.43),

hypertension (OR = 0.78, 95%CI

= 0.63-0.93, p = .007).

EN correlated with *psychotic*

symptoms (OR = 1.16, 95%CI =

1.02-1.32, p=.026), *suicidal*

attempts (OR = 1.21, 95%CI =

1.06-1.38, p = .005), *rapid*

cycling (OR = 1.24, 95%CI =

1.03-1.35, p = .017).

| Kefeli et al. (2018) | Emotional trauma significantly related to BD-I. | *Emotional trauma* (OR = 1.03, 95%CI = 0.78-1.36, p = .05) were significant predictors of having *BD-I.* | N/A |

| Khosravani, et al. (2019) | EA and EN significantly related to depression and emotional dysregulation. | N/A | Direct effects of *EA* severity (*ß* = .19, p < .01) and *EN* severity (*ß* = .15, p < .01) on *depressive symptoms* as measured by the BDI-II. EA (*ß* = .27, p < .001) and *EN* (*ß* = .24, p < .001) were significantly related to *emotional dysregulation*. EA and EN severity and emotion dysregulation together explained 48% of the total variance in depressive symptoms. Tests of mediation showed that *EA* severity (*ß* = .22, SE boot = .06, 95%CI = .12-.36, p < .001) and *EN* severity (*ß* = .19, SE boot |

			= .06, 95%CI = .08-.31), p < .01) had significant indirect effects on *depressive symptoms* through emotion dysregulation.
Kounou et al. (2013)	EA related to an increased risk of current MDD.	*EA* (OR = 3.7, 95%CI = 1.45-9.40) was significantly and independently associated with an *increased risk of current MDD.*	A significant association between severe *EA* and probable *PD* presence (x^2 = 13.62, df = 1, p < .001).
Kruger et al. (2017)	All patient with dissociative disorder reported higher EN most frequently perpetrated by biological parents.	N/A	*EN* and *EA* were the most reported form of abuse by *dissociative disorder patient*, thus possibly exaggerating the strength of their predictive role. *EN* was strongly associated with a *DD* diagnosis (p = 0.003), patients had higher frequencies (p

< 0.001) of "EN (e.g., being left alone, insufficient affection) by your [biological] parents, brothers or sisters" than non-DD patients.

Kulacaoglu et al. (2017)	EA and EN scores were higher in BPD patient group.	N/A	*EA* (U = 5440.500, z = −9.851, p = .000), and *EN* (U = 5008.500, z = −10.078, p = .000) subscale scores were significantly higher in the *BPD patient group*.
Mirhashem et al. (2017)	EA and negative urgency were related to the PCL-5.	N/A	*EA* (β = 0.37, p < 0.001) and *negative urgency* (β = − 0.41, p < 0.001) were related to the *PCL-5*.
Neumann (2017)	EA scores higher in the depressed group only and both EA and EN	N/A	Mean difference between *control* and *depressed* group: *EA* (U = 1474.50, Z = -7.87, p < .001), *EN*

	related in both depressed and control group.		(U = 1500.50, Z = -7.83, p < .001).
			Correlations:
			Control group: *EA* and *depression* (r = .29, p < .001), *EA* and *anxiety* (r = .38, p < .001).
			Depressed group: *EA* and *depression* (r = .25, p < .001), *EA* and *anxiety* (r = .26, p < .001), *EN* and *anxiety* (r = .23, p < .001), and *EN* and *depression* (r = .26, p < .001).
Ostefjells et al. (2017)	Early EA is relevant to depression/anxiety and positive symptoms in bipolar and psychotic disorder and suggest	N/A	Weak but significant positive relationships between levels of *EA* and *metacognitive beliefs* (r s = 0.37), symptoms of

that metacognitive beliefs could play a role in an affective pathway to psychosis.

depression/anxiety (r s = 0.27) and *positive symptoms* (r s = 0.23). All subtypes of trauma correlated significantly with metacognitive beliefs, but only emotional abuse and neglect showed additional relationships with both depression/anxiety and positive symptoms.

Pavlova et al. (2015)

EA was significantly associated with lifetime anxiety.

EA correlated with *anxiety disorder* (OR = 1.58, 95%CI = 1.12-2.21, p = .008), *panic disorder* (OR = 1.99, 95%CI = 1.21-3.27, p = .007), and *agoraphobia* (OR = 1.64, 95%CI = 1.02-2.64, p = .04).

N/A

			EN correlated with *panic disorder* (OR = 1.88, 95%CI = 1.13-3.12, p = .015).
Price & Connor, & Allen (2017)	EA significantly related with PTSD.	N/A	PTSD and EA were significantly correlated (B = 1.44, p < .01, SE = .36, 95%CI = .73-2.14), as well as the interaction (B = .31, p < .05, SE = .13, 95%CI = .04-.57).
Russo et al. (2013)	EA showed the highest mean scores in both male and female BDP patient.	N/A	When grouped by presence vs. absence of significant trauma, Chi^2 analyses revealed significant differences by *sex* for *EA* (x^2 = 4.492, p = 0.049) and *EN* (x^2 = 6.612, p = 0.017).

Sar & Islam, & Ozturk (2009)	EA and EN correlated with dissociative symptoms in patient with conversion symptoms.	N/A	EA predicted *DES* (β = .54, t = 3.48, p = .002) and *SDQ* scores (β = .44, t = 2.65, p = .013). *CADSS* scores were predicted both by EA (β = .86, t = 4.78, p = .001) and EN (β = -.47, t = 2.63, p = .014).
Schulz et al. (2017)	EA related to adult major depressive disorder	N/A	EA was found to be significantly and positively associated with self-rated baseline *depression* severity (r = .28, p < .001) and negatively associated with *symptom improvement* (r = -.19, p < .05).
Ventimiglia et al. (2020)	EA scores showed the most persistent association with depression scores over time.	N/A	There was a greater reduction over time in *depression* scores for the high EN exposure group

			(differences = 3.29), compared to the low EN exposure group (differences = 1.63).
Watson et al. (2014)	EA and EN were significantly greater in BD group.	N/A	*BD*'s EA (U = 780, p < .001) and *EN* (U = 767, p < .001) scores were significantly greater than control; *BD* patient's CTQ scores did not differ between those with and without suicidal ideation, although scores for *EN* subscale showed a tread towards significance (p > .05).
Xie et al. (2018)	The correlations between EA and suicide scores were significant in all the patient groups.	N/A	Correlations between the *SIOSS* scores and results from the scales:

			Depression group: EA (r = .204, p < .01), EN (r = .168, p < .05). *Bipolar* group: EA (r = .536, p < .01), EN (r = .345, p < .01). *Schizophrenia*: EA (r = .493, p < .01), EN (r = .234, p < .01).
Zhang et al. (2013)	There was a high prevalence of emotional maltreatment in PD patient.	The frequency of EA: *Any PD*: OR = 2.12, 95%CI = 1.72-2.61, *Cluster A*: OR = 2.90, 95%CI = 2.20-3.81, *Cluster B*: OR = 2.90, 95%CI = 2.20-3.82, *Cluster C*: OR = 1.98, 95%CI = 1.54-2.54,	N/A

The frequency of EN:

Any PD: OR = 1.79, 95%CI =

1.49-2.15,

Cluster A: OR = 2.03, 95%CI =

1.57-2.62,

Cluster B: OR = 1.99, 95%CI =

1.54-2.59,

Cluster C: OR = 1.54, 95%CI =

1.23-1.92.

Note. EA = Emotional Abuse, OR = Odd Ratio, CI = Confidence Interval, PD = Personality Disorder, Cluster A = Paranoid & Schizotypal, Cluster B1 = Sadistic & Anti-social, Cluster B2 = Borderline, Histrionic, & Narcissistic, Cluster C = Obsessive-Compulsive, Passive-aggressive, & Self-Defeating, aOR = Adjusted Odd Ratio, ENA = Emotional Abuse and Neglect, BPD = Borderline Personality Disorder, RR = Risk Ratio, RS = Rejection Sensitivity, EN = Emotional Neglect, OR[1] = Adjusted for demographics (age, gender, race-ethnicity and education), other maltreatment types, parental psychopathology and co-occurring personality disorders, SCL-90 = The Symptoms Checklist-90, EA = Emotional Abuse, EN = Emotional Neglect, aOR[1] = Adjusted for youth gender, attention deficit hyperactivity disorder at 5y, alcohol use at 14y, smoking at 14y, aggressive behavior at 14y, receiving benefits, educational levels, marital status, residential problem area at 21y,

familial income over the first 5y, chronic stress over first 6-month, and maternal reports of violence in homes at 14y, CM = Child

Maltreatment, PA = Physical Abuse, PN = Physical Neglect, SA = Sexual Abuse, PHQ-9 = Patient Health Questionnaire, GAD-7 =

Generalized Anxiety Disorder 7-items, PCL = Post Traumatic Stress Disorder Checklist, DDIS-BPD = Borderline Personality Disorder

Section of the Dissociative Disorders Interview Schedule, SDQ-5 = Somatoform Dissociation Questionnaire, EM = Emotional Maltreatment,

DP = Depersonalization, aOR[1] = Odds ratios adjusted for sex, age, race, marital status, education, and income as well as childhood physical

neglect, harsh physical punishment, physical abuse, sexual abuse, exposure to intimate partner violence, and family history of dysfunction,

OCD = Obsessive-Compulsive Personality disorder, MDD = Major Depressive Symptoms, BD = Bipolar Disorder, HC = Healthy Control, SA

= Suicidal Attempt, IP = Interpersonal Aggression, PTSD = Post-Traumatic Stress Disorder, PA = Physical Abuse, aOR[a] = adjusted for

receiving social security benefits, educational level, marital status at 21 years and paternal or maternal racial origin at pregnancy, maternal

alcohol use at 3–6 months and chronic depressive symptoms from pregnancy to 3–6 months postpartum, EN = Emotional Neglect, aOR[c] =

adjusted for age group, race/ethnicity, educational attainment, income, and rurality, AUD = Alcohol Use Disorder, aOR[b] = adjusted for age,

ethnicity, marital status, income, education, aOR = Adjusted Odd Ratio, PTSD = Post-Traumatic Stress Disorder, PTSS = post-traumatic stress

symptoms severity, OR[d]= adjusted for education level and household income, aOR[1] = Adjusted for sex, age, skin color/ethnicity, education,

income and marital status, SSD = Schizophrenic Spectrum Disorder, OR = Odd Ratio, CI = Confidence Interval, BD = Bipolar Disorder,

ADHD = Attention Deficit Hyperactivity Disorder, MDD = Major Depressive Symptoms, PD = Personality Disorder, BPD = Borderline

Personality Disorder, PCL-5 = PTSD Checklist for DSM-5, PTSD = Post Traumatic Stress Disorder, DD = Dissociative Disorder, DES =

Dissociative Experiences Scale, SDQ = Somatoform Dissociation Questionnaire, CADSS = Clinical Administered Dissociative State Scale,

aOR = Adjusted for demographic characteristic (age, years of education, marital status, and family history), SIOSS = Self-rating Idea of

Suicide Scale, Cluster B = Histrionic, Narcissistic, Borderline and Anti-social.

Supplementary Materials 7

Population Data on Childhood Psychological Maltreatment and Adult Mental Health in Chinese Studies

Authors (Year)	Location	Setting	Sample Population	Sample Size	Sample Population Demographic
Chang & Wang (2008)	Zhengjiang	Community	General Population	230	135 males, 95 females; M = 32.3, range = 18 - 44
Dai et al. (2016)	Liaoning	Community	College student	730	190 males, 540 females; M = 19.8
Deng et al. (2018)	Beijing	Community	College student	407	129 males, 278 females
Guo (2018)	Shandong	Community	College student	262	92 males, 170 females; M = 20.62

Han et al. (2018)	Yantai	Community	College student	395	151 males, 244 females
Wang & Lui (2017)	Haerbin	Community	College student	427	M = 20.99
Xie et al. (2008)	Changsha	Community	College student	457	238 males, 291 females; M = 20.2
Yang et al. (2019)	Jiangxi	Community	College student	941	455 males, 86 females; M = 20.32
Zeng et al. (2016)	Haerbin	Community	College student	603	92 males, 511 females
Zhang et al. (2017)	Liaoning	Community	College students	1502	612 males, 890 females; M = 18.43
Zhang et al. (2018)	Jiang Su	Clinical vs. Community	OCD vs. HC	110	60 OCD (26 males, 34 females; M = 31.2, range = 26 - 54); 50 HC (23 males, 27 females; M = 32.57, range = 21 - 49)

Note. M = Age Mean, Range = Age Range, OCD = Obsessive Compulsive Disorder, HC = Healthy Controls.

Supplementary Materials 8

Study Data on Childhood Psychological Maltreatment and Adult Mental Health in Chinese Studies

Authors (Year)	Methodology	Types of Abuse	Measurement of Emotional Abuse/Neglect	Measurement of Various Mental Health Outcomes	Perpetrator of the Maltreatment	Age at Exposure to Maltreatment
Chang & Wang (2008)	Questionnaire	EA, EN	CPANS	SCL-90	Parents / Caregivers	Before 18y
Dai et al. (2016)	Questionnaire	EM	CPANS	Adolescent Self-injury Scale	Parents / Caregivers	Before 18y
Deng et al. (2018)	Questionnaire	EM	Childhood Emotional Abuse Questionnaire	CD-RISE, SDS	Parents / Caregivers	N/A
Guo (2018)	Questionnaire	EM	CTSPC	SCL-90	Parents / Caregivers	Before 18y
Han et al. (2018)	Questionnaire	EA, EN	CPANS	BPAQ, RSE	Parents / Caregivers	Before 18y
Wang & Lui (2017)	Questionnaire	EM	Childhood Emotional Abuse Scale	CFI, CES-D	Parents / Caregivers	N/A

Xie et al. (2008)	Questionnaire	EA, EN	CPANS	SCL-90	Parents / Caregivers	Before 18y
Yang et al. (2019)	Questionnaire	EA, EN	CPANS	RRS, PANSI Being Bullied Questionnaire	Parents / Caregivers	N/A
Zeng et al. (2016)	Questionnaire	EM	Childhood Emotional Abuse Scale	STDEP, RRS	Parents / Caregivers	N/A
Zhang et al. (2017)	Questionnaire	EM	CPANS	Adolescent Self-injury Scale, Social Support Scale	Parents / Caregivers	Before 18y
Zhang et al. (2018)	Questionnaire	EM	CPMS	IUS-12, YBOCS	Parents / Caregivers	N/A

Note. EA = Emotional Abuse, EN = Emotional Neglect, CAPNS = Child Psychological Abuse and Neglect Scale, SCL-90 = Symptoms Checklist 90, EM = Emotional Maltreatment, Childhood Emotional Abuse Questionnaire = included three questions: 1) during childhood, your parents called you 'stupid', 'ugly', 2) your parents humiliated you in public during your childhood, 3) your parents told you wished you are not there during childhood, CD-RISE = Connor-Davidson Resilience Scale, SDS = Self-Rating Depression Scale, CTSPC = Parent-Child Conflict Tactics Scales, BPAQ = Buss-Perry Aggression Questionnaire, RSE = Rosenberg Self Esteem Scale, CFI = Cognitive Flexibility Inventory, CES-D =

Center for Epidemiologic Studies Depression Scale, Childhood Emotional Abuse Scale = developed by Pan et al., (2010), RRS = Rumination Response Scale, PANSI = Positive and Negative Suicide Ideation, Being Bullied Questionnaire = developed by Lui et al., (2006), STDEP = State-Trait Depression Scale, CPMS = Child Psychological Maltreatment Scale, IUS-12 = Intolerance of uncertain Scale – 12, YBOCS = Yale-Brown Obsessive-Compulsive Scale.

Supplementary Materials 9

Study Findings and Statistical Information Childhood Psychological Maltreatment and Adult Mental Health in Chinese studies

Author (Year)	Findings	Odd Ration / Adjusted odd ratio / Risk Ratio	Other Statistical Information
Chang & Wang (2008)	Comparing to the control group, the group who have been psychologically abused and neglected in their childhood has got higher scores in each factor of the SCL-90.	N/A	The correlations suggested that EN correlated with depression (r = .39) and anxiety (r = .36), EA correlated with depression (r = .31) and anxiety (r = .26) as well.

Dai et al. (2016)	EM & EN related to self-injury.	N/A	The correlations showed that self-injury correlated with EA (r = .24) and EN (r = .17).
Deng et al. (2018)	EM related to depression.	N/A	EM related to depression (r=.19, p<.01). The mediation effect: - resilience played a mediating role between college students' childhood EA experience and depression (β = .632, t = 3.111, p < .01). - EA related with depression (β = .894, t = 3.895, p < .01).

Guo (2018)	Parental EM related to mental health problems such as depression and anxiety.	N/A	Maternal EM related to higher scores on mental health problems (r = .32, p < .01). maternal EM related to depression (r = .20, p < .05) and anxiety (r = .33, p < .01). Paternal EM related to depression (r = .20, p < .05) and anxiety (r = .33, p < .01).
Han et al. (2018)	EM related to aggression and self-esteem.	N/A	EM related to aggression (r = .58, p < .01) and self-esteem (r = -.254, p < .01).
Wang & Lui (2017)	EM related to depression.	N/A	EM related to depression (r = .455, p < .01). Cognitive flexibility played an important role on mediating the relations between

EA and adult depression (β = .357,

p < .001).

| Xie et al. (2008) | EM & EN related to higher risk on mental health. | N/A | Male higher than female in EM occurrence rate: Scold: t = 4.222, p = .000, Threaten: t = 4.306, p = .000. EN occurrence rate: male higher than female; t = 2.884, p = .004. |
| Yang et al. (2019) | EA and EN related to suicide ideation. | N/A | EA & EN positively related with suicide ideation (r = .50, p < .01). Rumination as a mediator between EA & EN and suicide ideation (β = .65, t = 14.67, p < .001). EA & EN positively predict suicide |

ideation (β = .73, t = 17.79, p

< .001).

Zeng et al. (2016)	EM related to depression.	N/A	EM related to depression (r = .44, p < .01).
Zhang et al. (2017)	EA & EN related to self-injury.	N/A	Self-injury related to EA (r = .21) and EN (r = .29).
Zhang et al. (2018)	OCD patients have experienced more psychological abuse in childhood.	N/A	The mean differences between control and OCD groups were significant: Threaten: t = 3.51, p = .001, Neglect: t = 4.98, p = .000, Humiliate: t = 3.14, p = .002.

Supplementary Material 10

Summary of Quality Assessment (Newcastle-Ottawa Scale): Case-Control Studies (English Studies)

Study (Year)	Selection				Comparability		Exposure			Total No. of
	Case Definition Adequate	Case Representativeness	Selection of Controls	Definition of Controls	Gender	Age	Ascertainment of Exposure	Same Method	Non-response Rate	Stars
Aas et al. (2014)	a*	a*	b	b	Y*	Y*	d	a*	a*	6
Allen et al.	b	b	a*	a*	Y*	N	d	a*	a*	5

(2013)

Study										
Amianto et al. (2018)	b	a*	a*	a*	N	N	d	a*	a*	5
Balsam et al. (2010)	b	a*	a*	a*	Y*	Y*	d	a*	a*	7
Bernstein et al. (1998)	a*	a*	b	a*	N	N	d	a*	a*	5
Gibb et al. (2001)	b	a*	a*	a*	Y*	Y*	d	a*	a*	7
Briere et al. (2016)	b	a*	a*	a*	Y*	Y*	d	a*	a*	7
Brown et al. (2016)	b	a*	a*	a*	N	N	d	a*	a*	5
Bruni et al. (2018)	b	a*	a*	a*	Y*	N	d	a*	a*	6

Study										
Buser & Hackney (2012)	b	a*	a*	a*	N	Y*	d	a*	a*	6
Can et al. (2019)	a*	b	a*	b	Y*	N	d	a*	a*	5
Christ et al. (2019)	b	a*	a*	a*	Y*	N	d	a*	a*	6
Cohen et al. (2013)	a*	a*	b	b	Y*	N	d	a*	a*	5
Cohen et al. (2014)	a*	a*	b	b	Y*	Y*	d	a*	a*	6
Crouch et al. (2018)	a*	a*	a*	a*	Y*	N	d	a*	a*	7
Crow et al. (2014)	b	a*	a*	a*	N	N	d	a*	a*	5

de Mattos Souza et al. (2016)	b	a*	a*	a*	Y*	Y*	d	a*	a*	7
Janiri et al. (2015)	a*	a*	a*	a*	Y*	N	d	a*	a*	7
Dias et al. (2015)	b	a*	a*	a*	Y*	N	d	a*	a*	6
Etain et al. (2010)	a*	a*	a*	a*	N	N	d	a*	a*	6
Evren et al. (2010)	a*	a*	b	a*	N	N	d	a*	a*	5
Evren et al. (2016)	a*	a*	b	a*	N	N	d	a*	a*	5
Falgares et al. (2018)	b	a*	a*	a*	Y*	Y*	d	a*	a*	7

Study										
Ferguson & Dacey (1997)	b	b	a*	a*	Y*	N	d	a*	a*	5
Florez et al. (2020)	b	a*	a*	a*	Y*	N	d	a*	a*	6
Fowke, Ross, & Ashcroft (2012)	a*	a*	a*	a*	N	N	d	a*	a*	6
Fung, Chung, & Ross (2020)	a*	a*	a*	a*	Y*	Y*	d	a*	a*	8
Gong & Chan (2018)	a*	a*	a*	a*	Y*	Y*	d	a*	a*	8
Goodman et al. (2014)	b	a*	a*	a*	N	N	d	a*	a*	5

Haferkamp et al. (2015)	a*	a*	b	b	Y*	Y*	d	a*	a*	5
Hariri et al. (2015)	a*	a*	a*	a*	Y*	N	c	a*	a*	7
Huh et al. (2017)	a*	a*	b	b	N	N	d	a*	a*	4
Jaworska-Andryszewska et al. (2018)	b	a*	b	b	Y*	Y*	d	a*	a*	5
Junglen et al. (2019)	b	a*	b	a*	Y*	Y*	d	a*	a*	6
Kefeli et al. (2018)	a*	a*	a*	a*	N	N	d	a*	a*	6
Kent et al. (1997)	b	b	a*	a*	Y*	Y*	d	a*	a*	6

Khosravani et al. (2019)	a*	a*	b	b	Y*	Y*	d	a*	a*	6
Kounou et al. (2013)	a*	a*	a*	a*	Y*	N	d	a*	a*	7
Kruger et al. (2017)	a*	a*	b	b	N	N	d	a*	a*	4
Kulacaoglu et al. (2017)	a*	a*	a*	a*	Y*	Y*	d	a*	a*	8
Lee (2015)	b	a*	a*	a*	Y*	Y*	d	a*	a*	7
Mandavia et al. (2016)	b	a*	a*	a*	Y*	Y*	d	a*	a*	7
Thompson et al. (2000)	a*	a*	b	b	N	N	d	a*	a*	4
McCabe et al. (2018)	b	a*	a*	a*	Y*	N	d	a*	a*	6

Mirhashem et al. (2017)	a*	a*	b	a*	N	N	d	a*	a*	5
Neumann et al. (2017)	a*	a*	a*	a*	Y*	N	d	a*	a*	7
Novelo et al. (2018)	b	a*	a*	a*	Y*	Y*	d	a*	a*	7
O Laoide et al. (2018)	b	a*	a*	a*	Y*	N	d	a*	a*	6
O'Mahen et al. (2015)	b	a*	a*	a*	Y*	N	d	a*	a*	6
Ostefjells et al. (2017)	a*	a*	b	b	Y*	Y*	d	a*	a*	6
Pavlova et al. (2015)	a*	a*	b	b	N	N	d	a*	a*	4
Potthast et al. (2014)	a*	a*	b	b	Y*	Y*	d	a*	a*	6

Price, Connor, & Allen, (2017)	a*	a*	b	a*	Y*	Y*	d	a*	a*	7
Ross, Kaminski, & Herrington (2019)	b	a*	a*	a*	N	N	d	a*	a*	5
Russo et al. (2013)	a*	a*	b	b	Y*	Y*	d	a*	a*	6
Sar, Islam, & Ozturk (2009)	b	a*	b	a*	Y*	Y*	d	a*	a*	6
Saracli et al. (2016)	b	a*	a*	a*	N	N	d	a*	a*	5
Smith et al. (2018)	b	a*	a*	a*	N	N	d	a*	a*	5

Study										
van Duin et al. (2019)	b	a*	a*	a*	N	Y*	d	a*	a*	6
Watson et al. (2014)	a*	a*	b	b	N	N	d	a*	a*	4
Wright, Crawford, & Del Castillo (2009)	b	a*	a*	a*	Y*	N	d	a*	a*	6
Wu et al. (2018)	b	a*	a*	a*	N	N	d	a*	a*	5
Xie et al. (2018)	a*	a*	a*	a*	Y*	Y*	d	a*	a*	8
Yuan et al. (2014)	a*	a*	a*	a*	Y*	N	d	a*	a*	7
Zhang et al. (2013)	a*	a*	b	b	Y*	Y*	d	a*	a*	6

Note.

Selection:

1) Is the case definition adequate: a) yes, with independent validation* b) yes, e.g., record, linkage or based on self-report c) no description.

2) Representativeness of the cases: a) consecutive or obviously representative series of cases* b) potential for selection biases or not state

3) Selection of Controls: a) community controls* b) hospital controls c) no description

4) Definition of Controls: a) no history of disease (endpoint)* b) no description

Comparability:

1) Study controls for Gender

2) Study controls for Age

Exposure:

1) Ascertainment of exposure: a) secure record (e.g., surgical records)* b) structured interview based where blind to case/control status* c)

   interview not blinded to case-control status c) written self-report or medical record only d) no description

2) Same method of ascertainment for cases and controls: a) yes* b) no

3) Non-response rate: a) same rate for both groups* b) non respondents described c) rate different and no designation

Supplementary Material 11

Summary of Quality Assessment (Newcastle-Ottawa Scale): Cohort Studies

Study (Year)	Selection				Comparability		Outcomes			Total
	Exposed Cohort Representativeness	Non-exposed Cohort Selection	Exposure Ascertainment	Outcome not present at start	Gender	Age	Assessment	Follow-up Length	Follow Up Adequacy	No. of Stars
Abajobir et al. (2017)	a*	a*	c	a*	Y*	N	c	a*	c (51.9)	5
Abajobir et al. (2017)	b*	a*	c	a*	Y*	Y*	c	a*	d	6
Afifi et al. (2012)	a*	a*	b*	a*	Y*	N	c	a*	b* (86.7%)	7
Arnow et al. (2011)	c	a*	a*	a*	Y*	N	a*	a*	b* (97.7%)	7

Study										
Elliott et al. (2014)	c	a*	b*	a*	Y*	Y*	c	a*	b*	7 (70.2%)
Harford et al. (2014)	b*	a*	b*	a*	Y*	Y*	c	a*	b*	8 (86.7%)
Massing-Schaffer et al. (2015)	c	a*	b*	a*	N	N	c	a*	a*	5
Puzia et al. (2013)	c	a*	c	a*	N	N	c	a*	a*	4
Schulz et al. (2017)	c	a*	b*	a*	Y*	N	c	a*	a*	6
Sheikh, Abelsen, & Olsen (2016)	a*	a*	c	a*	Y*	Y*	c	b	d	5
Sunley et al.	a*	a*	c	a*	Y*	Y*	c	a*	d	6

(2020)

Taillieu et al. (2016)	a*	a*	b*	a*	Y*	N	c	b	d	5
Ventimiglia et al. (2020)	c	a*	b*	a*	Y*	Y*	c	a*	b* (78.5)	7
Waxman et al. (2014)	a*	a*	b*	a*	Y*	N	c	a*	b* (70.2%)	7

Notes.

Selection:

1) Representativeness of the exposed cohort: a) truly representative of the average General population (for community) / Clinical population (for clinical) in the community* b) somehow representative of the average General population (for community) / Clinical population (for clinical) in the community* c) selected group of users e.g., nurses, volunteers d) no description of the derivation of the cohort

2) Selection of the non-exposed cohort: a) drawn from the same community as the exposed cohort* b) drawn from a different source c) no description of the derivation of the non-exposed cohort

3) Ascertainment of exposure: a) secure record (e.g., surgical records)* b) structured interview* c) written self-report d) no description

4) Demonstration that outcome of interest was not present at start of study: a) yes* b) no

Comparability:

1) Comparability of cohorts on the basis of the design or analysis: a) study controls for Gender* b) study controls for Age*

Outcomes:

1) Assessment of outcome: a) independent blind assessment* b) record linkage* c) self-report d) no description

2) Was follow-up long enough for outcomes to occur: a) yes* b) no

3) Adequacy of follow up of cohorts: a) complete follow up - all subjects accounted for* b) subjects lost to follow up unlikely to introduce bias - small number lost - > 70 %* c) follow up rate < 70% and no description of those lost d) no statement

Supplementary Material 12

Summary of Quality Assessment (Newcastle-Ottawa Scale): Case-Control Studies (Chinese Studies)

Study (Year)	Selection				Comparability		Exposure			Total No. of Stars
	Case Definition	Case Representativeness	Selection of Controls	Definition of Controls	Gender	Age	Ascertainment of Exposure	Same Method	Non-response Rate	

	Adequate									
Chang & Wang (2008)	b	b	a*	a*	Y*	Y*	d	a*	N/A	5
Dai et al. (2016)	b	b	a*	a*	N	N	d	a*	N/A	3
Deng et al. (2018)	b	b	a*	a*	N	N	d	a*	N/A	3
Guo (2018)	b	b	a*	a*	N	N	d	a*	N/A	3
Han et al. (2018)	b	b	a*	a*	Y*	Y*	d	a*	N/A	5
Wang & Lui (2017)	b	b	a*	a*	N	N	d	a*	N/A	3
Xie et al. (2008)	b	b	a*	a*	Y*	N	d	a*	c	4
Yang et al. (2019)	b	b	a*	a*	Y*	Y*	d	a*	N/A	5
Zeng et al. (2016)	b	b	a*	a*	N	N	d	a*	N/A	3
Zhang et al. (2017)	b	b	a*	a*	Y*	N	d	a*	N/A	4
Zhang et al. (2018)	b	b	a*	a*	Y*	Y*	d	a*	N/A	5

Note.

Selection:

5) Is the case definition adequate: a) yes, with independent validation* b) yes, e.g., record, linkage or based on self-report c) no description.

6) Representativeness of the cases: a) consecutive or obviously representative series of cases* b) potential for selection biases or not state

7) Selection of Controls: a) community controls* b) hospital controls c) no description

8) Definition of Controls: a) no history of disease (endpoint)* b) no description

Comparability:

3) Study controls for Gender

4) Study controls for Age

Exposure:

4) Ascertainment of exposure: a) secure record (e.g., surgical records)* b) structured interview based where blind to case/control status* c) interview not blinded to case-control status c) written self-report or medical record only d) no description

5) Same method of ascertainment for cases and controls: a) yes* b) no

Non-response rate: a) same rate for both groups* b) non respondents described c) rate different and no designation

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