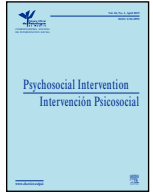




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Psychological injury in victims of child sexual abuse: A meta-analytic review

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ABSTRACT

In order to assess the effects of child/adolescent sexual abuse (CSA/ASA) on the victim's probability of developing symptoms of depression and anxiety, to quantify injury in populational terms, to establish the probability of injury, and to determine the different effects of moderators on the severity of injury, a meta-analysis was performed. Given the abundant literature, only studies indexed in the scientific database of reference, the Web of Science, were selected. A total of 78 studies met the inclusion criteria: they measured CSA/ASA victimization or injury in terms of depression or anxiety symptoms, measured the effect size or included data for computing them, and provided a description of the sample. The results showed that CSA/ASA victims suffered significant injury, generally of a medium effect size and generalizable, victims had 70% more probabilities of suffering from injury, and clinical diagnosis was significantly a more adequate measure of injury than symptoms. The probability of chronic injury (dysthymia) was greater than developing more severe injury, i.e., major depressive disorder (MDD). In the category of anxiety disorders, injury was expressed with a higher probability in specific phobia. In terms of the victim's gender, females had significantly higher rates of developing a depressive disorder (DD) and/or an anxiety disorder (AD), quantified in a 42% and 24% over the baseline, for a DD and AD respectively. As for the type of abuse, the meta-analysis revealed that abuse involving penetration was linked to severe injury, whereas abuse with no contact was associated to less serious injury. The clinical, social, and legal implications of the results are discussed.

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Daño psicológico en víctimas de abuso sexual infantil: Una revisión meta-analítica

RESUMEN

Con el objetivo de conocer los potenciales efectos de la victimización de abuso sexual infantil/adolescente (ASI/ASA) en el desarrollo de sintomatología depresiva y ansiosa así como cuantificar, en su caso, el potencial daño en términos poblacionales, la probabilidad de manifestación de daño y el efecto diferencial de moderadores en la severidad del daño manifestado, se planificó una revisión meta-analítica. Dada la gran proliferación de literatura se seleccionaron aquellos estudios indexados en la base de datos de referencia de calidad científica, la Web of Science. Setenta y ocho estudios cumplieron los criterios de inclusión: medida de la victimización de ASI/ASA, medida del daño en sintomatología depresiva o ansiosa, medida del tamaño del efecto o inclusión de datos que permitieran computarlo y descripción de la muestra. Los resultados mostraron que la victimización de ASI/ASA conlleva un daño significativo de un tamaño en general moderado y generalizable, que las víctimas tienen un 70% más de probabilidades de presentar daño y que el diagnóstico clínico es una medida significativamente más adecuada del daño que la sintomatología. La probabilidad de cronificación del daño (distimia) es mayor que la de un daño más grave (depresión mayor). En la categoría de los trastornos de ansiedad, el daño se manifiesta con mayor probabilidad en fobia específica. En cuanto al género de la víctima, las mujeres presentan una tasa significativamente mayor de desarrollo de un cuadro depresivo, cuantificado en un 42% sobre la línea base, y ansioso, cuantificado en un 24%. Por el tipo de abuso, los meta-análisis evidencian que el abuso con penetración conlleva más daño y el abuso sin contacto un daño menor. Se discuten las implicaciones clínicas, sociales y legales de los resultados.

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The World Health Organization (WHO, 1999) defines child sexual abuse (CSA) as involvement of a child in sexual activity that he or she does not fully comprehend, is unable to give informed consent to, or for which the child is not developmentally prepared and cannot give consent, or that violates the laws or social taboos of society. This definition encompasses the universal criterion, the involvement of a child in sexual behaviours/activities that the child is neither physically nor mentally prepared, and who lacks the capacity to consent, as well as the legal standards specific to each country (Stoltenborgh, van Ijzendoorn, Euser, & Bakermans-Kranenburg, 2011). These authors often refer to the characteristics of the aggressor (e.g., age, family relationship) and define the typologies of abuse (e.g., contact, exhibitionism). In the scientific literature, the term child sexual abuse includes adolescent sexual abuse (ASA) (Rich, Gidycz, Warkentin, Loh, & Weiland, 2005; Schoedl et al., 2010).

A recent meta-analysis established the global prevalence of CSA/ASA at 11.8% (Stoltenborgh et al., 2011). Additionally, both epidemiological studies (WHO, 2014) and several meta-analysis (Pereda, Guilera, Forns, & Gómez-Benito, 2009; Stoltenborgh et al., 2011) have coincided in that females had CSA/ASA rates around 18% to 20% higher than the 8% prevalence rate for males.

Of the different forms of child abuse, CSA/ASA is linked to severe injury (Intebi, 1998). In fact, numerous empirical studies have established a relationship between CSA/ASA and psychological injury (e.g., major depressive disorder, dysthymia, generalized anxiety disorder, phobic disorders), which may become manifest in the short-term and/or become chronic (Jumper, 1995; Paolucci, Genuis, & Violato, 2001). Psychological injury is classified according to two broad diagnostic categories: mood disorders and depressive disorders (as termed by the DSM-IV and DSM-V, respectively), and anxiety disorders (Jumper, 1995; Maniglio, 2009; Paolucci et al., 2001). The manifestation of sequelae in symptoms or in a particular disorder was related to the variables specific to each individual.

The high CSA/ASA prevalence rates, the association between victims and mental injury, the severity and chronicity of injury, the variability in prevalence, severity, and chronicity of injury, and the contradictory results underscored the need for undertaking a meta-analysis to review the empirical data on psychological injury in CSA/ASA victims in terms of symptoms and anxiety and depressive disorders.

Though injury associated to CSA/ASA victims is assumed to be general, certain moderators are expected to explain differences in the degree of injury. Succinctly, the prevalence and severity of injury has been reported to be different for females and for males (Jonas et al., 2011; Koenen & Widom, 2009; Stoltenborgh et al., 2011; Tolin & Foa, 2006; WHO, 2000, 2014); the type of sexual abuse suffered (i.e., contact, no contact, intercourse) (Bulik, Prescott, & Kendler, 2001; Cutajar et al., 2010; Fergusson, McLeod, & Hordwood, 2013; Jonas et al., 2011); the type of measure of psychological injury, symptoms (psychometric measure), and diagnosis of the disorders (clinical diagnosis) (Maniglio, 2010; Peleikis, Mykletum, & Dahl, 2005; Vilariño, Arce, & Fariña, 2013); and cultural aspects related to the manifestation of symptoms, and anxiety and depressive disorders (American Psychiatric Association, 2013).

Owing to the clinical, social, and legal implications of the results, the meta-analytical technique to be employed should not be constrained to standard effect sizes with their significance, generalization, and assessment of moderators, but should also quantify injury in terms of populations (i.e., assessing injury rates above the baseline) and evaluate the probability of manifesting injury and the differential effects of moderators on the severity of injury.

Method

Database Search of Studies

The process for selecting scientific studies began with a search in the meta-search engines (i.e., Google, Yahoo, Google Scholar), which,

according to the descriptors, listed between approximately 36,000 to 770,000 results. The vast majority of the search results yielded, without compromising the requirements for performing a robust meta-analysis (i.e., sufficient k and N), a selection of studies par excellence. Thus, the next step was to search for studies in one of the world's leading scientific databases of reference, the Web of Science. All of the databases of scientific papers (Core Collection, Current Contents, Medline, Scielo, KCI-Korean) were searched to include not only scientific literature par excellence, but also cultural concepts (i.e., Latinos, Asiatic), which are referred to in the manuals for the classification of mental disorders (DSM and ICD) and may have differential effects on the symptoms associated to victims of sexual abuse, i.e., depressive and anxiety disorders. Nevertheless, the race or ethnicity of victims of sexual abuse was not related in itself to the manifestation of depressive or anxiety disorders (Mennen, 1995).

In the initial search for studies in the meta-search engines, both English and Spanish descriptors were used: child maltreatment/maltrato infantil, child sexual abuse/abuso sexual infantil, victimization/victimización, internalizing disorders/trastornos internalizantes, anxiety/ansiedad, and depression/depresión. In the second search in the Web of Science, the same English language descriptors were used given that all of the descriptors in these databases are in English. Following a method of successive approximations, all of the keywords were reviewed in the selected articles in the search for other potential descriptors. This method identified other descriptors employed by other authors (e.g., child sexual abuse, adolescent sexual abuse, internalizing behaviour disorder, CSA survivors, and sequelae) that were included in the search. In all, the system yielded more than 15,900 (searching by child sexual abuse) and 2,000 (searching by child sexual abuse AND depression OR anxiety) studies that were finally reduced to 78 after applying the following inclusion and exclusion criteria.

Inclusion and Exclusion Criteria

Of the studies listed by the system, the following met the inclusion criteria: a) studies assessing the sequelae of CSA/ASA [CSA/ASA understood as the involvement of a child in sexual activity that he or she does not fully comprehend, is unable to give informed consent to, or for which the child is not developmentally prepared and cannot give consent] in terms of depression or anxiety internalizing variables; b) studies reporting the effect sizes of CSA/ASA sequelae, in which the variables and/or statistics enabled the following to be calculated: group size, mean and standard deviation of sequelae measurement variables for each group, prevalence, specificity, and sensitivity; c) studies defining the ground truth for classifying participants as victims of CSA/ASA or the measure (i.e., instrument) of abuse; and d) studies providing descriptive data on the sample employed (e.g., age, sample size).

Studies failing to meet the prescribed requirements were excluded, as were cases where, after contacting the authors, the data required was not facilitated for the computation of the effect sizes. In addition, studies with data errors (e.g., lack of consistency in group size throughout the study not attributable to missing data) were eliminated. Similarly, studies failing to guarantee the mutual exclusion of the victim of sexual abuse condition from other forms of maltreatment were also excluded (e.g., studies undertaking a single comprehensive analysis of victims of sexual and physical abuse or neglect). The inclusion of studies was restricted in time to studies published since 1995 given the profusion of meta-analysis on studies up to 1995 (Jumper, 1995). Thus, by applying these criteria, 78 studies were selected, with a total of 19,360 subjects, from which 149 effect sizes were obtained: 62 for the effects of CSA/ASA on anxiety disorders and 87 for depressive disorders. All of the studies selected had been published in double blind peer-reviewed scientific journals indexed at the Web of Science.

Coding of Primary Studies

The following data from the studies was coded for the meta-analysis: variables measuring the effects of abuse (i.e., clinical diagnosis, clinical symptoms), measures of abuse, reliability of the measurement instruments, sample characteristics (i.e., size, age, cultural context), and the statistics required for computing the effect sizes.

All of the studies of the sample were examined by two independent researchers, with total agreement in their classifications ($k = 1$). Appendix 1 shows the characteristics of the primary studies included in the present meta-analysis.

Data Analysis

The weighted effect size was calculated according to the sample size of the variable measuring the effects of CSA/ASA (anxiety or depression). When several measures of anxiety were reported (e.g., generalized, social phobia, specific phobia) or depression (e.g., major depression, dysthymia), the means for the effect sizes of the variables with more than one measure were calculated. Moreover, when the sample was subdivided into subtypes of abuse, the effect sizes were weighted in order to obtain an overall size.

The meta-analytical technique employed was a correlational type procedure (Hunter & Schmidt, 2004), weighting the effect size with the sample size and correcting with the reliability of the predictor and the criterion.

As most of studies fail to provide correlations between sexual abuse and the measures of sequelae of internalizing disorders (i.e., anxiety and depression), an alternative estimator of effect size, i.e., Cohen's d (1988), was computed when studies reported the mean and standard deviations of the experimental group (abused children), but no control group (in these studies the control group taken was the normative population for each instrument). When the results were expressed as student t values (F for one degree of freedom was transformed into t values), Cohen's d was obtained by comparing groups of the same sizes or when homogeneity of variance was observed and Hedges' g (Hedges & Olkin, 1985) were obtained for different sizes or no homogeneity of variance. If the results were expressed in Z values, they were transformed into correlations, ϕ was obtained from 2×2 tables, and when in odds ratio converted to correlations. The formulas for converting the other effect sizes to correlations were taken from Cohen (1988) and Rosenthal (1994).

To estimate the practical utility of the results, the $U1$ (Cohen 1988), the odds ratio, and the CLES (McGraw & Wong, 1992) were calculated. Additionally, increases in CSA/ASA symptoms or disorders (injury quantified in relation to population baselines) were directly obtained from r .

Predictor Reliability

For predictor reliability, the measure of sexual abuse, the reliability coefficients obtained from the primary studies were computed. When studies failed to report reliability coefficients or reported concordance, which is not reliability, mean reliability was calculated on the basis of the primary studies. Table 1 shows mean reliability, the standard error, and a 95% confidence interval (indicating the variance of mean reliability) for each context measured. Succinctly, the measure of the predictor, victims of sexual abuse, was reliable (see Table 1) with a limit below .77 (that is, high reliability, $r > .70$; Arce, Velasco, Novo, & Fariña, 2014; Nunnally & Bernstein, 1994).

Criterion Reliability

Criterion reliability was drawn from the primary studies, the original publication of the instrument itself and, in the absence of both, completed with the means for those contingencies where they were

unavailable. The mean reliability, standard error, and confidence intervals for each measure are shown in Table 2. In short, the measure of criteria reliability ranged from .84 to .86, with a lower limit for a 95% confidence interval of .82. Thus, the measures of the criterion were highly reliable ($r > .70$).

Results

Study of Outliers

Outliers in each of the measures (general sequelae, depression, and anxiety) were removed using the criterion $\pm 2 SD$ (bilateral) of the mean effect size, so the results were generalizable to 96% of future samples. The results identified 6 outliers ($-.12 > r > .64$) in sequelae ($M = .26$, $SD = .19$), 5 outliers ($-.13 > r > .63$) in anxiety ($M = .25$, $SD = .19$), and 6 outliers ($-.14 > r > .66$) in depression ($M = .26$, $SD = .20$). Thus, a total of 6 studies were eliminated from the meta-analysis as outliers.

Global analysis

The results of the meta-analysis on sequelae of sexual abuse on mental health (internalizing symptoms: depression and anxiety) showed (see Table 3) a significant effect (when the confidence interval has no zero, indicating the effect size was significant), positive (between victimization and mental health injury), generalizable (when the credibility interval has no zero, indicating the effect size was generalizable to 90% of other samples), and of a medium size (Cohen's category: $r = .30$) in general sequelae, depression, and anxiety, explaining 12, 8, and 10% of the variance respectively. In terms of practical utility, victims of CSA/ASA had a 70% higher probability (CLES) of internalizing injury (general sequelae) than non-victims, with 66% for depression and 68% for anxiety. The injury caused was quantified as 34, 28, and 31% in general sequelae, depression, and anxiety, respectively. Finally, the distributions for victims and non-victims ($U1$) in general sequelae, depression, and anxiety were totally independent (44, 37, and 41% respectively), though they were expected to be similar.

As for the robustness of the significance of the sequelae in CSA/ASA victims, it is worth noting that 93 studies with no significant results would be required to accept the null hypothesis.

Though results were generalizable in three measures (general sequelae, depression, and anxiety), the literature recommends assessing the potential differential effects of gender, type of measure, and type of abuse (meta-analysis). In short, it is well known that the base rate for symptoms and clinical diagnosis differ from males to females

Table 1
Predictor Reliability

Measure	r_{xx}	$SEM_{r_{xx}}$	95% CI	n
Sexual abuse victimization	.82	.023	.77, .86	17

Note. r_{xx} = average measure reliability; $SEM_{r_{xx}}$ = mean standard error; 95% CI = 95% confidence interval; n = number of reliability coefficients.

Table 2
Criterion Reliability

Criteria	r_{yy}	$SEM_{r_{yy}}$	95% CI	n
Anxiety	.84	.010	.82, .86	41
Depression	.86	.008	.84, .88	57
Total	.86	.006	.85, .87	61

Note. r_{yy} = average measure reliability; $SEM_{r_{yy}}$ = mean standard error; 95% CI = 95% confidence interval; n = number of reliability coefficients.

Table 3
Results of the Meta-Analyses of Sexual Abuse Victimization in General Sequelae, Depression, and Anxiety

	k	N_E	N_C	N_T	r_w	SD_r	ρ	SD_ρ	%VE	95% CI _r	90% CI _p
General Sequelae	91	19360	93988	125555	.28	.17	.34	.20	2.82	[.27, .29]	[.08, .59]
Depression	87	18910	92618	123735	.24	.14	.28	.16	4.10	[.23, .25]	[.08, .49]
Anxiety	62	14587	77494	93075	.26	.14	.31	.17	3.73	[.25, .27]	[.10, .52]

Note. k = number of studies; N_E = experimental group sample size; N_C = control group sample size; N_T = total sample size; r_w = observed correlation (observed validity) weighted for sample size; SD_r = standard deviation of the observed correlation; ρ = true correlation (operational validity corrected for criterion and predictor unreliability); SD_ρ = standard deviation of true correlation; %VE = percentage of variance accounted for by artifactual errors; 95% CI_r = 95% confidence interval; 90% CI_p = 90% credibility interval. When $N_T \neq N_E + N_C$ it means that experimental or control group sample size in primary studies were unknown.

(Nolen-Hoeksema, 1990, 2002). This view is so firmly established that most of the psychometric measurement instruments extensively used in clinical practice score males separately to females. Likewise, according to the leading international organisations classifying mental disorders (American Psychiatric Association, 2013; WHO, 2000), there is a higher prevalence of diagnosed depression and anxiety among females than males, including school-aged children and adolescents. Similarly, the type of abuse suffered (i.e., non-contact, contact, intercourse) has been shown to have effects on sequelae, which relates the severity of the crime to the severity of the injury (mild, moderate, severe) (Bulik et al., 2001; Cutajar et al., 2010; Fergusson et al., 2013; Jonas et al., 2011). As for the variables measuring the effects on victims of abuse, i.e., clinical diagnosis and clinical symptoms, the presence of symptoms does not imply that the diagnostic criteria had been met. In other words, they are different measures, given that they measure different constructs, so they may have a differential sensitivity to injury.

Study of Moderators

Gender effects. The results of the meta-analysis showed (see Table 4) a significant effect, positive, of a small size (Cohen's category: $r = .10$), and generalizable in depression and anxiety in female CSA/ASA victims.

In comparison, the meta-analysis revealed for male CSA/ASA victims a significant effect, positive, and of a small size in depression and anxiety, being generalizable in depression, but not so in anxiety (see Table 4). Thus, in the latter case, the results exhibited moderators mediated the direction of the effects.

Having contrasted the significance of the differences between the effect sizes, the true correlation between female participants and male participants, sequelae in depression was found to be significantly higher, $q_s = 0.093$, $p < .05$, in females, but not so for anxiety, $q_s = 0.073$, *ns*. This translates into quantifying injury in females as suffering from 9% more injury in depression than males. In prevalence rates (odds ratio), injury in depression for female and male victims

was 2.26 and 1.60 times greater than for non-victims, and 2.26 and 1.73 times greater in anxiety for female and male victims, respectively, in contrast to non-victims.

Effects of the type of measure. The results of the meta-analysis showed a significant effect, positive, of a medium size, and generalizable in the diagnosis of depressive and anxiety disorders in victims of CSA/ASA (see Table 5).

Likewise, the results of the meta-analysis displayed a significant effect, positive, of a small effect size and generalizable in anxiety and depression symptoms in CSA/ASA victims (see Table 5).

Comparatively, injury was significantly higher, $q_s = 0.152$, $p < .01$, in the clinical diagnosis of anxiety disorder than reported symptoms of anxiety. Likewise, the diagnosis of a depressive disorder was significantly more sensitive, $q_s = 0.108$, $p < .05$, for CSA/ASA victims than the report of depressive symptoms. These results, due to the type of measure, explained the differences attributed to sample type (Rind, Bauserman, & Tromovitch, 1998): university population (measure of symptoms) and clinical population (clinical diagnosis).

The meta-analysis of major depressive disorder and dysthymia (persistent depressive disorder) nesting in the diagnosis of depression (see Table 5), confirmed a significant and positive effect, of a medium size, and generalizable. Thus, the prevalence of a dysthymic disorder in victims of abuse was 6.59 (odds ratio) times higher than for non-victims, 3.25 higher for major depression. In terms of injury quantification, it was of 46% for dysthymia and 31% for major depression. The difference between effect sizes was significant, $q_s = 0.176$, $p < .01$, thus the effect size for the diagnosis of dysthymia was significantly larger than for major depressive disorder.

Similarly, the meta-analysis on generalized anxiety disorder, specific phobia, social phobia, and panic disorder were nested in anxiety disorders (see Table 5) found a significant and positive effect, of a medium to large, and generalizable for every diagnosis. Indeed, this implied CSA/ASA victims had 5.12, 7.62, 4.85, and 5.60 (odds ratio) greater probability of developing generalized anxiety disorder, specific phobia, social phobia, and panic disorder, respectively, than CSA/ASA non-victims. Injury was quantified as 41, 49, 40, and 43% for

Table 4
Results of the Meta-Analyses of Sexual Abuse Victimization in Depression and Anxiety by Gender

	k	N_E	N_C	N_T	r_w	SD_r	ρ	SD_ρ	%VE	95% CI _r	90% CI _p
Depression measure											
Females	42	8074	20127	39498	.18	.09	.22	.09	14.56	[.17, .19]	[.10, .34]
Males	12	1830	13843	15673	.11	.08	.13	.10	10.60	[.09, .13]	[.01, .26]
Anxiety measure											
Females	27	4926	12542	17706	.18	.12	.22	.13	10.82	[.17, .19]	[.05, .39]
Males	8	998	7380	8378	.12	.13	.15	.15	5.56	[.09, .14]	[-.04, .35]

Note. k = number of studies; N_E = experimental group sample size; N_C = control group sample size; N_T = total sample size; r_w = observed correlation (observed validity) weighted for sample size; SD_r = standard deviation of the observed correlation; ρ = true correlation (operational validity corrected for criterion and predictor unreliability); SD_ρ = standard deviation of true correlation; %VE = percentage of variance accounted for by artifactual errors; 95% CI_r = 95% confidence interval; 90% CI_p = 90% credibility interval. When $N_T \neq N_E + N_C$ it means that experimental or control group sample size in primary studies were unknown.

Table 5

Results of the Meta-Analyses of Sexual Abuse Victimization in Depression and Anxiety by Type of Measure

	k	N _E	N _C	N _T	r _w	SD _r	ρ	SD _ρ	%VE	95% CI _r	90% CI _ρ
Depressive Disorder	28	12131	66986	90220	.26	.14	.31	.03	2.32	[.25, .27]	[.10, .52]
Dysthymia	8	4524	36668	41192	.38	.08	.46	.09	8.91	[.37, .39]	[.34, .56]
Major Depressive Disorder	24	9406	64284	84793	.26	.14	.31	.16	2.21	[.25, .27]	[.11, .52]
Depressive symptomatology	59	6668	25533	33293	.18	.12	.21	.13	12.75	[.17, .19]	[.04, .37]
Anxiety Disorder	21	10133	58784	68917	.29	.14	.35	.16	2.40	[.28, .30]	[.14, .56]
Generalized Anxiety Disorder	8	5808	43403	49211	.34	.11	.41	.13	3.63	[.33, .35]	[.25, .57]
Specific Phobia	3	3830	30616	34446	.41	.03	.49	.02	70.97	[.40, .42]	[.46, .51]
Social Phobia	10	4901	39701	44602	.34	.13	.40	.15	2.82	[.33, .35]	[.21, .60]
Panic Disorder	8	4932	37321	42253	.36	.11	.43	.12	4.30	[.35, .37]	[.27, .58]
Anxiety symptomatology	41	4510	18845	24270	.18	.12	.21	.13	12.53	[.17, .19]	[.05, .37]

Note. k = number of studies; N_E = experimental group sample size; N_C = control group sample size; N_T = total sample size; r_w = observed correlation (observed validity) weighted for sample size; SD_r = standard deviation of the observed correlation; ρ = true correlation (operational validity corrected for criterion and predictor unreliability); SD_ρ = standard deviation of true correlation; %VE = percentage of variance accounted for by artifactual errors; 95% CI_r = 95% confidence interval; 90% CI_ρ = 90% credibility interval. When N_T ≠ N_E + N_C it means that experimental or control group sample size in primary studies were unknown. Effect size for agoraphobia has not been obtained due to insufficient k.

generalized anxiety disorder, specific phobia, social phobia, and panic disorder, respectively. The probability of developing these disorders as sequelae was similar except for specific phobia that was significantly higher than social phobia, $q_s = 0.112$, $p < .05$, and generalized anxiety disorder, $q_s = 0.100$, $p < .05$.

Effects of the type of abuse. The results of the meta-analysis on the type of abuse suffered (no contact, contact, and penetration) revealed a significant and positive effect, of small size, and generalizable in depression and anxiety (see Table 6). The comparison of sizes, showed injury derived from abuse with penetration, both in depression and anxiety, was significantly higher than injury in the no contact abuse condition for depression, $q_s = 0.093$, $p < .05$, and anxiety, $q_s = 0.092$, $p < .05$.

Effects of the interaction type of measure and gender. In the diagnosis of depressive disorders (see Table 7), the effect sizes were positive and significant for both males and females, of a small size for males and a medium one for females, which were generalizable for females, but not for males (the effects of the moderators could not be assessed in this case due to the very small k). In comparison, the effect size for females was significantly higher, $q_s = 0.388$, $p < .01$, than for males, quantifying injury in 42% for female victims and 10% for males. As for prevalence, female CSA/ASA victims had a 5.40 (odds ratio) more probability of meeting the criteria of depressive disorders than female non-victims, whereas males had a 1.44 more probability than male non-victims. Moreover, for the diagnosis of anxiety disorders the effect sizes were positive, significant, and of a small size for both males and females, generalizable for females, but not so for males (once again, moderators could not be found due to the very small k). Once again, the effect size found in females was significantly higher, $q_s = 0.104$, $p < .05$, than in males, with injury of 24% for female victims and 14% for males. This reveals that female victims had 2.43 (odds ratio) more probability of developing anxiety disorders than female non-victims, and male victims 1.66 more probability than male non-victims.

The effect sizes in depressive symptoms were significant, positive, of small sizes, generalizable, and similar (*ns*) for both males and females. As for anxiety symptoms, the effect sizes were significant, positive, of small sizes, and generalizable for both males and females. Nonetheless, the effect size was significantly higher, $q_s = 0.095$, $p < .05$, in males. Thus, the results highlight that male CSA/ASA victims had a 2.76 probability (odds ratio) of developing significantly more anxiety symptoms than male non-victims, and female victims a 1.95 probability than female non-victims.

Discussion

As a whole, the results of this study support undoubtedly (a total of 93 studies with non-significant results would be required to annul the effect) that CSA/ASA victimization had a significant and positive effect (injury) on mental health, of a small- to large-size, and generalizable. This was demonstrated in the following:

- A higher probability, around 70% in each of the different measures, of suffering from internalized injury, depression, and anxiety.
- Injury caused to the victim's mental health, that is, mental injury and/or emotional suffering (United Nations, 1988), was calculated to be around 30% (34, 28 and 31% in general sequelae, depression, and anxiety, respectively). This finding implies that offenders are not only criminally responsible for their deeds, but are also liable to civil compensation payments for injuries caused to victims. With this aim in mind, a forensic technique has been developed for quantifying injury in specific cases (Arce & Fariña, 2009).
- Injury to mental health in terms of depression and anxiety associated to victims of CSA/ASA was significant in males and females, but with 9% more depression in females, leading to a higher probability of developing a depressive or anxiety disorders in females with injury of 42 and 24%, respectively. In contrast, injury involved significantly more anxiety symptoms in males with 27% injury. However, symptoms are not an optimum indicator of injury.
- Clinical diagnosis was a measure of injury significantly more adequate than symptoms. The evaluation techniques characteristic to clinical diagnosis and clinical symptoms may explain these differences. In the interview, indeed, injury was linked to cause, whereas in the psychometric measures of CSA/ASA victimization it was not, allowing for other causes. Furthermore, the diagnostic threshold was much stricter than for symptoms, which underscores its greater sensitivity and specificity. Thus, the benchmark for future research should be the diagnosed measure of injury based on an interview task, rather than symptoms based on a psychometric measure.
- Injury was calculated to be 46 and 31% for persistent depressive disorder (dysthymia) and major depressive disorder, respectively. Moreover, the expression of injury as dysthymia was significantly greater than for major depressive disorder, that is, the probability of chronic injury (dysthymic) was greater than more serious injury (major depressive disorder).
- Injury to CSA/ASA victims was expressed in anxiety disorders, estimated to be around 40 to 49%, being the highest in specific phobias.
- Abuse with penetration led to injury in depression and anxiety significantly greater than abuse with no contact. These results lend

Table 6

Results of the Meta-analyses of Sexual Abuse Victimization in Depression and Anxiety by Type of Abuse

	k	N_E	N_C	N_T	r_w	SD_r	ρ	SD_ρ	%VE	95% CI _r	90% CI _p
Depression Measure											
Non-Contact	7	278	5431	5709	.12	.03	.14	0	100	[.09, .15]	[.14]
Contact	4	171	3228	3399	.16	.07	.18	.07	25.97	[.13, .19]	[.10, .27]
Intercourse	4	184	3228	3412	.19	.08	.23	.09	17.60	[.16, .22]	[.11, .34]
Anxiety Measure											
Non-Contact	4	101	3225	3326	.08	.03	.09	0	100	[.05, .11]	[.09]
Contact	4	170	3225	3395	.11	.06	.14	.06	34.73	[.08, .14]	[.06, .21]
Intercourse	4	184	3225	3409	.15	.07	.18	.08	22.02	[.12, .18]	[.08, .28]

Note. k = number of studies; N_E = experimental group sample size; N_C = control group sample size; N_T = total sample size; r_w = observed correlation (observed validity) weighted for sample size; SD_r = standard deviation of the observed correlation; ρ = true correlation (operational validity corrected for criterion and predictor unreliability); SD_ρ = standard deviation of true correlation; %VE = percentage of variance accounted for by artifactual errors; 95% CI_r = 95% confidence interval; 90% CI_p = 90% credibility interval. When $N_T \neq N_E + N_C$ it means that experimental or control group sample size in primary studies were unknown.

Table 7

Results of the Meta-analyses of the Sexual Abuse Victimization in Depression and Anxiety by Type of Measure and Gender

	k	N_E	N_C	N_T	r_w	SD_r	ρ	SD_ρ	%VE	95% CI _r	90% CI _p
Depressive Disorder Diagnosis											
Females	11	4421	11594	27130	.33	.19	.42	.23	1.79	[.32, .34]	[.13, .71]
Males	5	1446	10220	11666	.08	.08	.10	.09	6.90	[.06, .10]	[-.02, .21]
Anxiety Disorder Diagnosis											
Females	8	3192	8018	11210	.20	.13	.24	.15	4.75	[.18, .22]	[.05, .43]
Males	4	845	6806	7651	.11	.13	.14	.15	3.26	[.09, .13]	[-.06, .33]
Depressive Symptomatology											
Females	32	3709	8530	12482	.17	.09	.20	.09	27.79	[.15, .19]	[.07, .32]
Males	7	458	3577	4035	.18	.05	.22	.04	62.72	[.15, .20]	[.17, .26]
Anxiety Symptomatology											
Females	20	1790	4580	6608	.15	.09	.18	.09	33.68	[.13, .17]	[.07, .30]
Males	4	153	594	727	.23	.09	.27	.05	69.51	[.16, .30]	[.20, .35]

Note. k = number of studies; N_E = experimental group sample size; N_C = control group sample size; N_T = total sample size; r_w = observed correlation (observed validity) weighted for sample size; SD_r = standard deviation of the observed correlation; ρ = true correlation (operational validity corrected for criterion and predictor unreliability); SD_ρ = standard deviation of true correlation; %VE = percentage of variance accounted for by artifactual errors; 95% CI_r = 95% confidence interval; 90% CI_p = 90% credibility interval. When $N_T \neq N_E + N_C$ it means that experimental or control group sample size in primary studies were unknown.

support to the distinction in the legal classification of both criminal typologies.

Limitations of the study

This meta-analysis entails certain limitations that should be borne in mind when interpreting the data. First, the ground truth of the primary studies for the classification of abuse generally rests on self-reports of a retrospective nature, that relies on individual memory capabilities, and are related to false positives or false alarms (Amado, Arce, & Fariña, 2015; Schoedl et al., 2010). Moreover, victim self-reports of sexual abuse may bias the results towards concealing them (false negatives), in particular for males (Stoltenborgh et al., 2011). Second, primary studies assume that injury to mental health is sequelae to abuse, without appraising other possible causes (cause-effect relationship) (Jumper, 1995; Vilariño et al., 2013). Third, the effect of the variable under analysis in primary studies was not completely isolated as in many studies victims of sexual abuse, physical abuse, neglect, and other categories appear under the same

umbrella. Fourth, as some studies had no control group, the normative population was taken as the contrast group, or it was not equivalent to the experimental one with the subsequent potential for distortion in the calculated effect sizes (Briere, 1992).

Alternatively, the results of the meta-analysis were subject to little variability, that is, $N_s > 400$ and a large k (Hunter & Schmidt, 2004) were highly generalizable (entirely for the female population, and for males with the exception of the diagnosis of a disorder and the general measure of anxiety for the male population), whereas 93 studies with no significant results would be required to annul the evidence supporting the claim that CSA/ASA leads to mental health injuries.

Further research is required to determine which moderators inhibit the generalization of the effects in the general measure of anxiety in the male population and in the diagnosis of depression and anxiety.

Conflict of Interest

The authors of this article declare no conflict of interest.

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Appendix 1
Summary Table of Primary Studies Characteristics

	N_{GE}	N_{GC}	r	r_{xx}	r_{yy}	CSA Questionnaire	Depression/ Anxiety Measure	Type of measure
Balsam, Lehavot, Beadnell, & Circo (2010)	669		.13	.94	.86	CTQ-SF	PHQ GAD-7	Anxiety Symptomatology
	669		.08	.94	.91	< 17 years	CESD-10	Depressive Symptomatology
Bonomi, Cannon, Anderson, Rivara, & Thompson (2008) ^a	693	2399	.05	-	.76	Behavioral Risk Factor Surveillance System < 18 years	CES-D	Depressive Symptomatology
Briere and Elliot (2003) ^a	152	309	.17	-	.86	TES	TSI	Anxiety Symptomatology
	152	309	.22	-	.86	< 18 years	TSI	Depressive Symptomatology
Briere and Elliot (2003) ^b	66	398	.26	-	.86	TES	TSI	Anxiety Symptomatology
	66	398	.26	-	.86	< 18 years	TSI	Depressive Symptomatology
Brown, Cohen, Johnson, & Smailes (1999)	22	558	.72	-	-	Forensic Sample	DSM-III-R	Dysthymia
	22	558	.43	-	-	Forensic Sample	DSM-III-R	Major Depressive Disorder
Cantón-Cortés, Cortés, & Cantón (2012)	182	182	.30	-	.86	Childhood Sexual	BDI	Depressive Symptomatology
	182	182	.23	-	.62	Abuse Questionnaire < 13 years	STAI	Anxiety Symptomatology
Cantón-Cortés & Justicia (2008)	83	83	.22	-	.86	Questionnaire < 13 years	BDI	Depressive Symptomatology
Carey, Walker, Rossouw, Seedat, & Stein (2008)	50	44	.03	-	-	CTQ	DSM-IV	Major Depressive Disorder
	50	44	-.08	-	-	< 17 years	DSM-IV	Dysthymia
	50	44	.01	-	-		DSM-IV	Panic Disorder
	50	44	.01	-	-		DSM-IV	Social Phobia
Cheasty, Clare, & Collins (1998) ^a	73	164	.15	-	.86	30-item General Health Questionnaire < 16 years	BDI	Depressive Symptomatology
Chen, Dunne, & Han (2004) ^a	89	944	.16 ⁽¹⁾	-	.89	Questionnaire	CES-D	Depressive Symptomatology
	102	944	.24 ⁽²⁾	-	.89	< 16 years		Depressive Symptomatology
Chen, Dunne, & Han (2004) ^b	62	990	.14 ⁽¹⁾	-	.89	Questionnaire	CES-D	Depressive Symptomatology
	55	990	.16 ⁽²⁾	-	.89	<16 years		Depressive Symptomatology
Chen, Dunne, & Han (2006) ^a	28	269	.08 ⁽¹⁾	-	.91	Questionnaire	CES-D	Depressive Symptomatology
	49	269	.24 ⁽²⁾	-	.91	< 16 years		Depressive Symptomatology
Chen et al. (2014) ^{a, (1)}	233	10882	.30	-	-	Stressful Life Events	CIDI (DSM-IV)	Major Depressive Disorder
Chen et al. (2014) ^{a, (2)}	281	10834	.58	-	-	Stressful Life Events	CIDI (DSM-IV)	Major Depressive Disorder
Chen et al. (2014) ^{a, (3)}	171	10944	.74	-	-	Stressful Life Events	CIDI (DSM-IV)	Major Depressive Disorder
Comijs et al. (2013)	85	175	.23	-	-	Structured inventory	IDS	Depressive Symptomatology
	85	175	.14	-	-	< 16 years	BAI	Anxiety Symptomatology
Cortés-Arboleda, Cantón-Cortés, & Cantón-Duarte (2011) ^a	209	209	.20	-	.92	Questionnaire < 18 years	STAI	Anxiety Symptomatology
Cortés-Arboleda, Cantón-Duarte, & Cantón-Cortés (2011) ^a	240	240	.22	-	.92	Questionnaire	STAI	Anxiety Symptomatology
	240	240	.29	-	.83	< 16 years	BDI	Depressive Symptomatology
Cortés-Arboleda, Cantón-Duarte, & Cantón-Cortés (2011) ^b	29	29	.29	-	.92	Questionnaire	STAI	Anxiety Symptomatology
	29	29	.18	-	.83	< 16 years	BDI	Depressive Symptomatology

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Summary Table of Primary Studies Characteristics

	N_{GE}	N_{GC}	r	r_{xx}	r_{yy}	CSA Questionnaire	Depression/ Anxiety Measure	Type of measure
Cutajar et al. (2010) ^a	2153	2055	.34	-	-	Forensic Sample	ICD	Depressive Disorder
	2153	2055	.36	-	-	< 16 years	ICD	Anxiety Disorder
Cutajar et al. (2010) ^b	535	622	-.02	-	-	Forensic Sample	ICD	Depressive Disorder
	535	622	.40	-	-	< 16 years	ICD	Anxiety Disorder
Doerfler, Toscano Jr., & Connor (2009)	39	73	.22	-	.91	Forensic Sample	DSMD	Depressive Symptomatology
	39	73	.27	-	.86		DSMD	Anxiety Symptomatology
Dube et al. (2005) ^a	1173	3520	.13	.69	-	ACE	Screening Instrument	Major Depressive Disorder
						< 18 years	for Depressive Disorders	
Dube et al. (2005) ^b	601	3414	.07	.69	-	ACE	Screening Instrument	Major Depressive Disorder
						< 18 years	for Depressive Disorders	
Feeney, Kamiya, Robertson, & Kenny (2013)	451	6256	.08	-	.85	2 questions	CES-D	Depressive Symptomatology
	451	6256	.08	-	.80	< 18 years	HADS-A	Anxiety Symptomatology
Feerick & Snow (2005) ^a	98	215	.13	-	.84	CSAI < 18 years	HSCL	Anxiety Symptomatology
Fergusson, Boden, & Horwood (2008) ⁽¹⁾	28	881	.09	-	-	Interview	CIDI	Anxiety Disorder
	28	881	.12	-	-	<16 years	DSM-IV	Major Depressive Disorder
Fergusson, Boden, & Horwood (2008) ⁽²⁾	52	881	.17	-	-	Interview	CIDI	Anxiety Disorder
	52	881	.23	-	-	< 16 years	DSM-IV	Major Depressive Disorder
Fergusson, Boden, & Horwood (2008) ⁽³⁾	64	881	.19	-	-	Interview	CIDI	Anxiety Disorder
	64	881	.27	-	-	<16 years	DSM-IV	Major Depressive Disorder
Ferguson & Dacey (1997) ^a	19	55	.41	-	.85	CEQ	BDI	Depressive Symptomatology
	19	55	.37	-	.90		STAI	Anxiety Symptomatology
Fergusson, McLeod, & Horwood (2013)	28	809	.08 ⁽¹⁾	-	-	Structured	CIDI	Major Depressive Disorder
	51	809	.15 ⁽²⁾	-	-	Interview		Major Depressive Disorder
	62	809	.20 ⁽³⁾	-	-	< 16 years		Major Depressive Disorder
	28	809	.05 ⁽¹⁾	-	-	Structured	CIDI	Anxiety Disorder
	51	809	.09 ⁽²⁾	-	-	Interview		Anxiety Disorder
	62	809	.22 ⁽³⁾	-	-	< 16 years		Anxiety Disorder
Fondacaro, Holt, & Powell (1999) ^b	86	125	.18	-	-	Questionnaire	DIS (DSM-III-R)	Major Depressive Disorder
	86	125	.06	-	-	< 16 years		Dysthymia
	86	125	.23	-	-			Panic Disorder
	86	125	.25	-	-			Generalized Anxiety Disorder
Frias, Brassard, & Shaver (2014) ^a	116	691	.10	-	.90	1 question	ECR	Anxiety Symptomatology
Godbout, Briere, Sabourin, & Luissier (2013)	59	284	.23	-	.88	SCEQ	ECR	Anxiety Symptomatology
						<18 years		
Gudjonsson, Sigurdsson, & Tryggvadóttir (2011)	37	73	.12	-	.84	Parental Neglect	DASS	Anxiety Symptomatology
	37	73	.06	-	.91	and Sexual Abuse	DASS	Depressive Symptomatology
						Questionnaire < 18 years		
Haj-Yahia & Tamish (2001)	652		.55	.89	.88	Sexual Abuse	BSI	Anxiety Symptomatology
	652		.60	.89	.88	Finkelhor's	BSI	Depressive Symptomatology
	652		.59	.89	-	Scale		Anxiety Symptomatology
Henderson, Hargreaves, Gregory, & Williams (2002) ^a	22	57	.27	-	-	Interview	POMS-SF	Depressive Symptomatology
	22	57	.31	-	-	<14 years	POMS-SF	Anxiety Symptomatology

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Summary Table of Primary Studies Characteristics

	N_{GE}	N_{GC}	r	r_{xx}	r_{yy}	CSA Questionnaire	Depression/ Anxiety Measure	Type of measure
Hobfoll et al. (2002)	67		.05	.93	.90	CTQ < 17 years	POMS	Depressive Symptomatology
Jonas et al. (2011)	964	6389	.21	-	.75	Interview	CIS-R	Major Depressive Disorder Generalized Anxiety
			.19	-	.75	<16 years	CIS-R	
Generalized Anxiety Disorder			.18	-	.75		CIS-R	Panic Disorder
			.28	-	.75		CIS-R	Phobic Disorder
Kendler et al. (2000)	427	983	.24	-	-	Interview	SCI (DSM-III-R)	Generalized Anxiety Disorder
	427	983	.24	-	-	< 16 years	SCI	Panic Disorder
	427	983	.25	-	-		SCI	Major Depressive Disorder
Kent & Waller (1998) ^a	236		.30	.61	.70	CATS	HADS-A	Anxiety Symptomatology
	236		.28	.61	.60		HADS-D	Depressive Symptomatology
Kugler, Bloom, Kaercher, Truax, & Storch (2012)	54	107	.57	-	.88	Forensic sample	TSCC	Anxiety Symptomatology
	54	107	.62	-	.81	8–17 years	CDI and TSCC	Depressive Symptomatology
Kuo, Goldin, Werner, Heimberg, & Gross (2011)	20	82	.10	.86	.93	CTQ-SF	SIAS	Anxiety Symptomatology
	20	82	.07	.86	.90	< 16 years	BDI-II	Depressive Symptomatology
Lamoureux, Palmieri, Jackson, & Hobfoll (2012) ^a	271	422	.26	.87	.89	CTQ <16 years	CES-D	Depressive Symptomatology
Leck, Difede, Patt, Giosan, & Szkodny (2006) ^b	92	2030	.18	.83	.93	TEI	BDI-II	Depressive Symptomatology
Li, Ahmed, & Zabin (2012)	214	3870	.27	-	-	Research Study of	1 question	Anxiety Symptomatology
	214	3870	.28	-	-	Adolescent Health <14 years	1 question	Depressive Symptomatology
Liem, O'Toole, & James (1996) ^a	43	43	.24	-	.81	SEQ	BSI	Anxiety Symptomatology
	43	43	.25	-	.85	<14 years	BSI	Depressive Symptomatology
	43	43	.29	-	.83		BDI-SF	Depressive Symptomatology
Linskey & Fergusson (1997)	24	918	.11 ⁽¹⁾	-	-	Reports of	DSM-IV	Anxiety Disorder
	47	918	.15 ⁽²⁾	-	-	Childhood Sexual	DSM-IV	Anxiety Disorder
	36	918	.15 ⁽³⁾	-	-	Abuse	DSM-IV	Anxiety Disorder
	24	918	.12 ⁽¹⁾	-	-	<16 years	DSM-IV	Depressive Disorder
	47	918	.17 ⁽²⁾	-	-		DSM-IV	Depressive Disorder
	36	918	.21 ⁽³⁾	-	-		DSM-IV	Depressive Disorder
López, Carpintero, Hernández, Martín, & Fuertes (1995)	337	1484	.12	-	-	Interview	SRQ	Anxiety Symptomatology
	337	1484	.08	-	-	< 16 years	SRQ	Depressive Symptomatology
Lumley & Harkness (2007)	11		.13	.93	.91	CECA	MASQ	Anxiety Symptomatology
	11		.13	.93	.88		MASQ	Depressive Symptomatology
Luterek, Harb, Heimberg, & Marx (2004) ^a	34		.12	-	.81	LEQ < 14 years	BDI	Depressive Symptomatology
MacMillan et al. (2001) ^a	508	3170	.08	-	-	Child Maltreatment	CIDI	Anxiety Disorder
	508	3170	.07	-	-	History Self-Report	CIDI	Depressive Disorder
MacMillan et al. (2001) ^b	150	3188	.02	-	-	Child Maltreatment	CIDI	Anxiety Disorder
	150	3188	.02	-	-	History Self-Report	CIDI	Depressive Disorder
Manion et al. (1998) ^a	29	45	.47	-	-	NAEF <14years	Depression Self-Rating Scale for Children	Depressive Symptomatology
Manion et al. (1988) ^b	22	29	.39	-	-	NAEF <14years	Depression Self-Rating Scale for Children	Depressive Symptomatology

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Summary Table of Primary Studies Characteristics

	N_{GE}	N_{GC}	r	r_{xx}	r_{yy}	CSA Questionnaire	Depression/ Anxiety Measure	Type of measure
Mapp (2006) ^a	107	158	.13	-	.87	Forensic Sample <18 years	CES-D	Depressive Symptomatology
Mchichi Alami & Kadri (2004) ^a	62	620	.09	-	-	Questionnaire	Hamilton Depression	Depressive Symptomatology
	19	620	.10 ⁽¹⁾	-	-		Rating Scale	Depressive Symptomatology
	21	620	.03 ⁽²⁾	-	-			Depressive Symptomatology
	22	620	.03 ⁽³⁾	-	-			Depressive Symptomatology
	63	617	.02	-	-	Hamilton Anxiety	Rating Scale	Anxiety Symptomatology
	21	617	.05 ⁽¹⁾	-	-			Anxiety Symptomatology
	20	617	.01 ⁽²⁾	-	-			Anxiety Symptomatology
	22	617	.01 ⁽³⁾	-	-			Anxiety Symptomatology
McLean, Morris, Conklin, Jayawickreme, & Foa (2014) ^a	71		.59	-	.87	Forensic Sample 13-18 years	BDI	Depressive Symptomatology
McLeer et al. (1998)	80	73	.33	-	.86	Interview	CDI	Depressive Symptomatology
	80	73	.27	-	.89	6-16 years	STAIC	Anxiety Symptomatology
Merril (2001) ^a	248	523	.15	-	.84	SEQ	TSI	Anxiety Symptomatology
	248	523	.17	-	.84	<14 years	TSI	Depressive Symptomatology
Messman-Moore, Long, & Siegfried (2000) ^a	56	282	.24	.89	.85	LEQ	SCL-90-R	Anxiety Symptomatology
	56	282	.17	.89	.90	< 17 years	SCL-90-R	Depressive Symptomatology
Meston, Rellini, & Heiman (2006) ^a	48	71	.34	-	.92	Questionnaire	BAI	Anxiety Symptomatology
	48	71	.40		.86	<16 years	BDI	Depressive Symptomatology
Meyerson, Long, Miranda, & Marx (2002)	39	91	.23	.75	.93	SEQ < 12 years	BDI-II	Depressive Symptomatology
Miller (2006) ^a	25	50	.22	-	.86	Interview	BDI	Depressive Symptomatology
Molnar, Buka, & Kessler (2001) ^a	394	2527	.13	-	-	<18 years	DSM-III-R	Generalized Anxiety Disorder
	394	2527	.13	-	-		DSM-III-R	Panic Disorder
	394	2527	.13	-	-		DSM-III-R	Phobic Disorder
	394	2527	.23	-	-		DSM-III-R	Major Depressive Disorder
	394	2527	.25	-	-		DSM-III-R	Dysthymia
Molnar, Buka, & Kessler (2001) ^b	74	2871	.04	-	-	<18 years	DSM-III-R	Generalized Anxiety Disorder
	74	2871	.09	-	-		DSM-III-R	Panic Disorder
	74	2871	.18	-	-		DSM-III-R	Phobic Disorder
	74	2871	.23	-	-		DSM-III-R	Major Depressive Disorder
	74	2871	.16	-	-		DSM-III-R	Dysthymia
Mullen, Martin, Anderson, Romans, & Herbison (1996) ^a	53	390	.21	-	-	Questionnaire <16 years	PSE-SF	Depressive Symptomatology
Musliner & Singer (2014) ^a	436	221	.24	-	.85	Questionnaire <16 years	CES-D-10	Depressive Symptomatology
Nelson et al. (2002) ^a	387	1931	.12	-	-	Interview	DSM-IV	Social Phobia
	387	1931	.17	-	-	<18 years	DSM-IV	Major Depressive Disorder
Nelson et al. (2002) ^b	90	1574	.04	-	-	Interview	DSM-IV	Social Phobia
	90	1574	.08	-	-	<18 years	DSM-IV	Major Depressive Disorder
Newcomb, Munoz, & Carmona (2009) ^a	66	79	.26	-	.77	CMIS-SF	TSI	Anxiety Symptomatology
	66	79	.20	-	.86	<17 years	TSI	Depressive Symptomatology
Newcomb, Munoz, & Carmona (2009) ^b	19	59	.32	-	.77	CMIS-SF	TSI	Anxiety Symptomatology
	19	59	.35	-	.86	<17 years	TSI	Depressive Symptomatology

Appendix 1
Summary Table of Primary Studies Characteristics

	N_{GE}	N_{GC}	r	r_{xx}	r_{yy}	CSA Questionnaire	Depression/ Anxiety Measure	Type of measure
Offen, Waller, & Thomas (2003)	10	16	.42	-	-	1 Question	BDI	Depressive Symptomatology
Peleikis, Mykletun, & Dahl (2004) ^a	56	56	.52	-	-	Interview	SCID-II	Major Depressive Disorder
	56	56	.27	-	-	<16 years		Dysthymia
Peleikis, Mykletun, & Dahl (2005) ^a	56	56	0	-	-	Detailed Structured	SCID	Panic Disorder
	56	56	.10	-	-	Interview	SCID	Agoraphobia
	56	56	.07	-	-	<16 years	SCID	Social Phobia
	56	56	.24	-	-		SCID	Generalized Anxiety Disorder
	56	56	.12	-	.85		SCL-90-R	Anxiety Symptomatology
	56	56	.14	-	.82		SCL-90-R	Anxiety Symptomatology
	56	56	.19	-	-		SCID	Major Depressive Disorder
	56	56	.23	-	-		SCID	Dysthymia
	56	56	.18	-	.90		SCL-90-R	Depressive Symptomatology
Pérez-Fuentes et al. (2013)	3786	30431	.45	-	-	ACE	DSM-IV	Panic Disorder
	3786	30431	.39	-	-	<18 years	DSM-IV	Social Phobia
	3786	30431	.34	-	-		DSM-IV	Specific Phobia
	3786	30431	.44	-	-		DSM-IV	Generalized Anxiety Disorder
	3786	30431	.35	-	-		DSM-IV	Major Depressive Disorder
	3786	30431	.40	-	-		DSM-IV	Dysthymia
Portegijs, Jeuken, van der Horst, Kraan, & Knottnerus (1996) ^a	11		.07	-	-	Youth Experiences	DIS	Anxiety Disorder
	11		.33	-	-	Questionnaire	DIS	Depressive Disorder
						<16 years		
Rich, Gidycz, Warkentin, Loh, & Weiland (2005) ^c	42		.09	-	.84	Child Sexual Victimization Quest.	BDI-II	Depressive Symptomatology
						<14 years		
Rich, Gidycz, Warkentin, Loh, & Weiland (2005) ^d	189		.28	-	.74	SES	BDI-II	Depressive Symptomatology
						<18 years		
Schaaf & McCanne (1998) ^a	27	211	.06	-	-	CSEQ	TSI	Anxiety Symptomatology
	27	211	.11	-	-	< 15 years	TSI	Depressive Symptomatology
Silverman, Reinherz, & Giaconia (1996) ^a	23	164	.08	-	-	Interview	DIS (DSM-III-R)	Specific Phobia
	23	164	.03	-	-	<18 years	DIS	Social Phobia
	23	164	.23	-	-		DIS	Major Depressive Disorder
Spertus, Yehuda, Wong, Halligan, & Seremetis (2003) ^a	41	162	.20	.82	.85	CTQ	SCL-90-R	Anxiety Symptomatology
	41	162	.18	.82	.90	< 17 years	SCL-90-R	Depressive Symptomatology
Steel, Sanna, Hammond, Whipple, & Cross (2004)	85	172	.21	-	.85	Sexual History	SCL-90-R	Anxiety Symptomatology
	85	172	.15	-	.90	Questionnaire	SCL-90-R	Depressive Symptomatology
						<18 years		
Subica (2013)	50	122	.25	-	.86	TAA-R	PHQ-8	Major Depressive Disorder
						<18 years		
Sun et al. (2008)	244	781	.29	-	.85	Questionnaire	SCL-90-R	Anxiety Symptomatology
	244	781	.36	-	.90	< 18 years	SCL-90-R	Depressive Symptomatology
Swanston et al. (2003)	104		.41	-	.82	Forensic Sample	RCMAS	Anxiety Symptomatology
	63		.41	-	.86	5–15 years	CDI	Depressive Symptomatology
Thomas, DiLillo, Walsh, & Polusny (2011) ^a	52		.36	.85	.93	WSHQ	BDI-II	Depressive Symptomatology
						<14 years		
Thompson et al. (2003) ^a	26	25	.45	-	-	Interview	SCID-I	Anxiety Disorder
	26	25	.55	-	-	< 18 years	SCID-I	Depressive Disorder

Appendix 1
Summary Table of Primary Studies Characteristics

	N_{GE}	N_{CC}	r	r_{xx}	r_{yy}	CSA Questionnaire	Depression/ Anxiety Measure	Type of measure
Trowell et al. (1999) ^a	21	21	.48	-	-	Forensic Sample	Kiddie-SADS	Major Depressive Disorder
			.27	-	-	8-14 years	Kiddie-SADS	Generalized Anxiety Disorder
			.29	-	-			Social Phobia
			.19	-	-			Specific Phobia
van Vugt, Lancôt, Paquette, Collin-Vézina,	89		.46	.87	.88	CTQ	TSI-2	Anxiety Symptomatology
& Lemieux (2013) ^a	89		.38	.87	.88	< 17 years	TSI-2	Depressive Symptomatology
Villarroel, Penelo, Portell, & Raich (2012) ^a	81	597	.04	-	.93	TLEQ	STAI	Anxiety Symptomatology
	81	597	.14	-	.88	<18 years	BDI	Depressive Symptomatology
Widom, DuMont, & Czaja (2007)	96	520	.03	-	-	Forensic Sample	DIS	Major Depressive Disorder
						<12 years		
Young, Harford, Kinder, & Savell (2007) ^a	116	163	.22	.79	.83	ESE	BSI	Anxiety Symptomatology
	116	163	.13	.79	.89	<16 years	BSI	Depressive Symptomatology
Young, Harford, Kinder, & Savell (2007) ^b	39	88	.05	.79	.83	ESE	BSI	Anxiety Symptomatology
	39	88	.05	.79	.89	<16 years	BSI	Depressive Symptomatology

Note. N_{GE} = experimental group sample size; N_{CC} = control group sample size; r = sexual abuse victimization and depression/anxiety correlation; r_{xx} = reliability of sexual abuse measure instruments; r_{yy} = reliability of Anxiety and Depression measure instruments; ^afemale participants; ^bmale participants; ^cchildhood sexual abuse (CSA); ^dadolescence sexual abuse (ASA).

⁽¹⁾Non-contact CSA; ⁽²⁾contact CSA; ⁽³⁾intercourse.

CTQ-SF = Childhood Trauma Questionnaire Short Form; TES = Traumatic Events Survey; CESD-10 = 10-item Center for Epidemiologic Studies Depression; PHQ GAD-7 = 7-item Patient Health Questionnaire Generalized Anxiety Disorder Scale; CES-D = 20-item Center for Epidemiological Studies-Depression scale; BDI = Beck Depression Inventory; CIDI = Composite International Diagnostic Interview; IDS = Inventory of Depression Symptoms; STAI = State Trait Anxiety Inventory; ICD = International Classification of Disease; STAIC = State Trait Anxiety Inventory for Children; DSMD = Devereux Scales of Mental Disorders; ACE = Adverse Childhood Experiences; HADS-A = Hospital Anxiety and Depression Scale – Anxiety Scale; CSAI = Childhood Sexual Abuse Interview; HSCL = Hopkins Symptom Checklist; CEQ = Childhood Experiences Questionnaire; ECR = Experiences in Close Relationships Questionnaire; DASS = Depression Anxiety Stress Scales; BSI = Brief Symptom Inventory; POMS-SF = Profile of Mood States-Short Form; CTQ = Childhood Trauma Questionnaire; CIS-R = Clinical Interview Schedule Revised; CATS = Child Abuse and Trauma Scale; TSCC = Trauma Symptom Checklist for Children; CDI = Children Depression Inventory; TEI = Traumatic Events Interview; BDI-II = Beck Depression Inventory, second edition; TEQ = The Traumatic Events Questionnaire; BDI-SF = Beck Depression Inventory-Short Form; BSI = Brief Symptom Inventory; SEQ = The Significant Events Questionnaire; SRQ = Self Reporting Questionnaire; CECA = Childhood Experience of Care and Abuse Interview; MASQ = Mood and Anxiety Symptom Questionnaire; AA = Anxiety Arousal; TSI = Trauma Symptom Inventory; LEQ = Life Experiences Questionnaire; BAI = Beck Anxiety Inventory; PSE-SF = Present State Examination- Short Form; CMIS-SF = Childhood Maltreatment Interview Schedule-Short Form; SCID-II = Structured Clinical Interview for DSM-IV Axis II; CSEQ = Childhood Sexual Experiences Questionnaire; TAA-R = Trauma Assessment for Adults Brief Revised Version; PHQ-8 = Patient Health Questionnaire – 8; RCMAS = Revised Children's Manifest Anxiety Scale; WSHQ = CSA subscale from the Wyatt Sex History Questionnaire; Kiddie-SADS = Semi-Structured Interview Kiddie-Sads, DSM-IV; SICE = Structured Interview on CSA Experiences; TSC-33 = Trauma Symptom Checklist; ESE = Early Sexual Experiences; NIMH = National Institute of Mental Health Diagnostic Interview Schedule, Version III Revised; SES = Sexual Experiences Survey; SCI = Structured Clinical Interview; SIAS = Social Interaction Anxiety Scale; NAEF = Natural of the Abusive Experience Form; DIS = Diagnostic Interview Schedule; EPDS = Edinburgh Post-Natal Depression Scale; CCEI = Crown-Crisp Experiential Index; TLEQ = Traumatic Life Events Questionnaire; SCEQ = Childhood Sexual Experiences Questionnaire; RADS = Reynold's Adolescent Depression Scale.