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REVIEW

A Strengths-based Approach to Resilience in Child Sexual Abuse: A Meta-Analysis

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Abstract

This meta-analysis aims to uncover which protective factors reveal the greatest effect sizes on resilience among CSA survivors (i.e., symptoms, well-being, and competence) based on the Resilience Portfolio Model. This perspective shifts the focus from deficit-based models to a strengths-based approach that focuses on CSA survivors' resources and assets. Following the PRISMA guidelines, a total of 50 reports were included in the meta-analysis, involving 12,345 participants (children and adults) from different contexts (community, clinical, and forensic) and 335 effect sizes. Our findings revealed that while meaning-making strengths (e.g., spirituality) were associated with both well-being and symptoms, regulatory strengths (e.g., emotional regulation, self-control) and supportive relationships (e.g., caregiver emotional support) were associated with symptoms but not with well-being, and environmental strengths (e.g., extracurricular activities) were associated with well-being but not with symptoms. Coping was not significantly associated with symptoms or well-being. Clinical interventions based on narrative, mindfulness, and trauma-focused therapy could be particularly useful for fostering psychological health in CSA victims.

Keywords Child sexual abuse · Strengths · Resilience · Protective factors · Meta-analysis

Introduction

Child Sexual Abuse (CSA) has been studied over decades due to its well-recognized impact on victims (MacIntosh & Ménard, 2021). CSA refers to child or adolescent involvement in sexual activities, regardless of their comprehension (Borg et al., 2018; DeGraw, 2018; Flett et al., 2015) and which may entail physical contact through

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penetrative acts (e.g., rape, sodomy, oral sex, and prostitution) or non-penetrative acts (e.g., molestation and fondling). It may also encompass non-contact practices, including exposure to sexual activities, creation of sexual content, or encouragement of the child or adolescent to engage in sexually inappropriate behaviour (Borg et al., 2018; DeGraw, 2018). Most recent worldwide estimates indicate that approximately 18.9% of women and 14.8% of men have experienced CSA involving physical contact before turning 18 years (1 in 5 girls and 1 in 7 boys) (Cagney et al., 2025). As expected, the estimates are higher when abusive behaviors without physical contact are considered (United Nations Children's Fund, 2024).

CSA is commonly associated with negative psychological effects on victims (Papalia et al., 2021; Solehati et al., 2022), such as post-traumatic stress disorder (PTSD), attention deficit hyperactivity disorder (ADHD), mood, behavioral, eating disorders, depression, anxiety, dissociation, schizophrenia, self-mutilation, and/or suicidal ideation (e.g., Lu et al., 2023; Noll, 2021; Scoglio et al., 2021; Tomsa et al., 2021; Xiao et al., 2022; Yule et al., 2019). Furthermore, risky sexual behaviors, alcohol/substance abuse, criminality, violence, and anger management problems are also reported in the literature (Daniels & Bryan, 2021; Lu et al., 2023; Papalia et al., 2021; Xiao et al., 2022). CSA can also hinder victims' academic and workplace success, increasing their risk of unemployment or financial instability (Daniels & Bryan, 2021; MacIntosh & Ménard, 2021; Papalia et al., 2021; Scoglio et al., 2021; Solehati et al., 2022; Yule et al., 2019). Research has consistently suggested this negative impact of CSA on victims' psychological health (Foley et al., 2022). However, some victims exhibit well-functioning and positive adaptation (Meng et al., 2018; Yoon et al., 2023; Yule et al., 2019). These findings require further research to identify the protective factors underlying resilience of CSA victims (Meng et al., 2018; Yoon et al., 2023). Moreover, there is evidence that well-being and post-traumatic growth are three times better explained by strengths than by adversities (Brooks et al., 2024). Therefore, in the current meta-analytic review, a strengths-based approach to psychological health was adopted.

According to the *Resilience Portfolio Model* (RPM), psychological health is impacted by the victims' portfolio of protective factors, which means that victims who have the needed resources and assets to face adversity might exhibit better psychological health (Grych et al., 2015). As such, it is the interaction between assets and resources that forms the foundation of the unique victims "portfolio" and defines one's resilience (Grych et al., 2015). Assets refer to internal aspects that favor healthy adaptation, such as emotion regulation, the one's capacity to building interpersonal relationships, and the ability to raise meaning in the face of adverse circumstances (Grych et al., 2015; Masten, 2007). Specifically, according to the RPM, assets include the following three dimensions: Regulatory Strengths (i.e., the ability to remain focused, motivated, persevering, and self-regulated), Interpersonal Strengths (i.e., the one's ability to maintain close relationships, such as gratitude, compassion, or generosity) and Meaning-Making Strengths (i.e., the ability to find meaning in traumatic events, giving them coherence, such as the sense that life has a meaning through spirituality) (Grych et al., 2015). Resources refer to the availability of sources of

support, including emotional, instrumental, and financial support (i.e., supportive relationships), as well as the environmental factors (e.g., positive school environment, neighborhood cohesion, and collective efficacy or socioeconomic status that might positively impact victims' recovery and resilience). Finally, coping strategies involves one's efforts to deal with adversity (Grych et al., 2015).

To the best of our knowledge, this is the first meta-analysis on CSA anchored in a strength-based framework. The RPM was selected to guide the current meta-analysis, as it might enable us to identify the most successful strengths in fostering resilience in the face of CSA. In fact, some reviews and meta-analyses have been published in the last few years, but none have explored the resilience portfolio of CSA victims using a strengths-based approach. Scoglio et al. (2021) have explored the role of risk and protective factors that explain the relationship between CSA and future victimizations. In their review, they identified key risk factors, including co-occurring domestic abuse, risky sexual behaviors, emotional dysregulation, and maladaptive coping strategies. On the other hand, they highlighted the victims' perception of parental care as the main and only protective factor. Domhardt et al. (2015) found a set of individual and environmental factors that can mediate or moderate the adverse effects of CSA using a meta-analysis approach. They identified education as a key individual factor associated with positive outcomes and highlighted the protective role of social support in mitigating the negative impact of CSA. Similarly, Yule et al. (2019) provided evidence in their meta-analysis of the protective factors for resilience in victims of violence, such as self-regulation skills, supportive relationships (with family, teachers, and peers), effective parenting, and community cohesion. Recently, Fares-Otero et al. (2025) were focused on the association between child abuse and neglect and five resilience domains in adulthood. In sum, Yule et al. (2019) did not focus specifically on CSA victims, Fares-Otero et al. (2025) were focused only on adulthood, and they did not focus on the role of protective factors on resilience outcomes, and Domhardt et al. (2015) did not provide a meta-analytic review theoretically grounded in a strength-based model. Although different forms of abuse share common risk and protective factors, CSA survivors may experience further stigmatizing and victim-blaming responses from others, which in turn are associated with worst mental health outcomes and recovery (Kennedy & Prock, 2018). Thus, the CSA involves specific processes of secrecy, blame, and stigma that require research specifically focused on this type of abuse.

The current meta-analysis aims to address this research gap by identifying the protective factors with the greatest effect sizes on resilience outcomes among CSA survivors, framed within the RPM (Grych et al., 2015). Framing our review on a strengths-based approach brings an innovative perspective on the resilience of CSA by emphasizing protective factors and victims' strengths more than the lack of risk factors, which might provide relevant insights for practices and policies in the CSA field. Moreover, this review might enable the identification of protective variables at different ecological levels, such as the individual, family, peer, and community levels, describing the key processes through which CSA victims develop resilience and foster adaptive functioning after exposure to this abusive experience.

Method

Search Strategy and Study Selection

This meta-analysis review was previously registered (Antunes et al., 2023). A first electronic search was conducted in December 2024 in eight databases (Academic Search Complete, APA PsycArticles, APA PsycINFO, Psychological and Behavioral Sciences Collection, ERIC, MEDLINE, Web of Science and Scopus) restricting to articles published in academic journals in English, Portuguese, and Spanish. A second search was performed in December 2025 in the following databases: APA PsycArticles, ERIC, Web of Science, Scopus. The studies were identified through the combination of the following keywords: “child* sexual abuse” OR “child* sexual victimization” OR “child* sexual assault”; AND “psychological health” OR resilien* OR competenc* OR “positive functioning” OR well-being OR “psychological difficult*” OR symptom* OR psychopathol*; AND “cognitive abilit*” OR "positive self-perception*" OR self-regulation OR “attribution*” OR “interpersonal strengths” OR gratitude OR compassion OR generosity OR forgiveness OR meaning-making OR religi* OR spiritual* OR support OR coping OR "community cohesion" OR "extra-curricular activit*" OR "protect* factor*".

Studies were included if they focused on children’s, adolescents’ or adults’ resilience outcomes after exposure to CSA. Even considering that several developmental differences and clinical implications emerge when considering child/adolescents victims vs. adults’ retrospective reports of experiencing CSA, it also might provide further insights on the specific and common protective factors at these different developmental stages, which in turn can inform clinical practice and prevention from a life span perspective. Additional inclusion criteria included that studies were published in English, Portuguese, and Spanish; peer-reviewed articles published in academic journals; quantitative empirical studies (correlational, longitudinal, and group comparison designs); and defined CSA as any unwanted, nonconsensual or exploitative sexual activity involving a child under 18 years of age, including contact and noncontact abuse.

Study selection followed a four-phase process as suggested by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Statement (Page et al., 2021) to select the studies based on a sequential screening of the title, abstract and full text (Fig. 1). Two independent researchers led the initial screening of the titles and abstracts, using Rayyan QCRI software (Ouzzani et al., 2016): one researcher screened all papers (CF), while the second screened 30% (CA). This process yielded an agreement rate of 97% and disagreements were then resolved by a team discussion with two other researchers (EM and CC). As shown in Fig. 1, an initial search found 4,852 records through the database. When all duplicates were removed, 2,450 records were screened regarding the title and abstract. From these, 342 full articles were assessed for eligibility, and 50 were finally included in meta-analysis synthesis (See Table S1 in supplementary material).

Quality assessment of included studies was performed using the criteria taken from the Strengthening the Reporting of Observational studies in Epidemiology Statement (STROBE; Vandenbroucke et al., 2007).

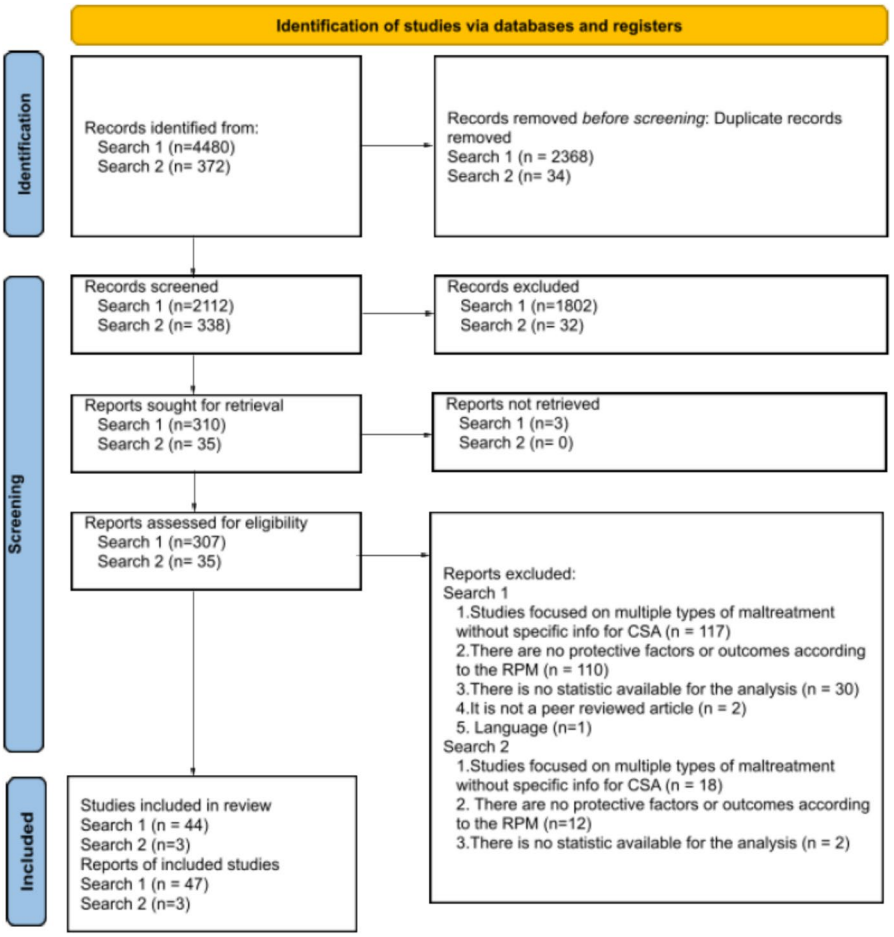


Fig. 1 PRISMA 2020 flow diagram for new systematic reviews which included searches of databases and registers only

Study Coding

A coding scheme was built to extract relevant information from each included study. Coding was performed in an excel form and the following information was extracted: bibliographical information (authors; year of publication), geographical region where the study was conducted, sample characteristics (sample size; type of participants – children/adolescents or adults; type of sample – community, clinical, forensic, or mixed; gender), information about the variables (type of protective factor; type of psychological health outcome), the measure of psychological health and the informant (self-report or other-report) and the respective effect sizes (or statistical information needed to calculate the effect size). In accordance with the RPM (Grych et al., 2015), protective factors after exposure to child sexual abuse were categorized into interpersonal strengths, meaning-making strengths, regulatory strengths, sup-

portive relationships, environmental factors and coping dimensions; psychological health outcomes were categorized into symptoms (i.e., psychopathology), well-being (subjective or psychological), and competence (i.e., the attainment of developmental tasks or competence in multiple areas of functioning) dimensions (see further details on these concepts at Grych et al. (2015), p. 348).

Statistical data from each study were transformed to correlation coefficients using the methods and formulas proposed by Lipsey and Wilson (2001), and by Borenstein and colleagues (2009). Correlations were computed from means and standard deviations, odds-ratios, chi-square, t, F, and d values (Hunter & Schmidt, 2004). Effect sizes were calculated using results from bivariate analyses, and multivariate results (e.g., adjusted means, adjusted odds-ratios) were not considered since they do not present a direct association between two variables. Although an interrater agreement on this stage was not performed, the data coded was double-checked by other members from the research team.

Data Analytic Strategy

A set of meta-analyses were conducted to measure the associations of each protective factor with the different psychological health dimensions, using Pearson correlations (*r)*. Given the non-normal distribution of the correlation coefficients, *r* values were transformed into Fisher's z-values prior to the statistical analyses, and these were transformed back into correlations after the analyses to enhance the interpretation of the results. In the present study, effect sizes of $r>.10$ were interpreted as small, $r>.24$ as moderate, and $r>.37$ as large (Rice & Harris, 2005). For the protective factors including multiple effect sizes from the same sample, multi-level meta-analyses were conducted to account for effect size dependency between studies (level 3), between effect sizes from the same primary study (level 2), and between all the retrieved effect sizes (level 1). Meta-analytic models were built in the statistical environment R (version 4.4.2, R Core Team, 2024), with the function "rma.mv" of the metafor package (Viechtbauer, 2010) and the syntax of Assink and Wibbelink (2016). To determine the significance of the variances at levels 2 and 3, two one-sided log-likelihood-ratio tests were performed. Whenever the number of effects sizes was similar to the number of studies, a simple meta-analysis was performed with the function "rma" of the metafor package (Viechtbauer, 2010). To conduct moderation analyses, the full dataset for each psychological health outcome was used. Finally, trim-and-fill analysis was conducted to check for potential publication biases, by analyzing asymmetry in the funnel plot of study effect sizes versus their precision (Shi & Lin, 2019).

Results

Descriptive Data

The current meta-analytic review analyzed a total of 50 articles, using 47 samples/studies, published between 1991 and 2025, and 335 effect sizes. Most studies were conducted in North America ($n=45$), followed by Europe ($n=3$), and one in China

and another one in Turkey. Sample size of the included studies ranged from 30 and 2619 participants and included children and/or adolescents ($n=25$) or adults ($n=25$). Most of the studies were conducted with samples with males and females ($n=27$), others only with females ($n=21$), and males ($n=2$). Further, the included studies were mainly conducted with community samples ($n=21$), forensic samples ($n=16$), and clinical ($n=6$) or mixed samples ($n=7$) (Table S1). Mental health was coded into three domains – symptoms, well-being and competence – according to RPM. Most of the studies focused on symptoms ($n=46$), seven on well-being, and only one in competence. Regarding the measures of mental health, most studies relied on self-reported measures ($n=40$) and only 10 papers adopted other-reported measures. Specifically, most studies used the CBCL ($n=10$) or Trauma Symptom Checklist for Children ($n=10$), followed by the Beck Depression Inventory or the Child Depression Inventory ($n=7$) and the Impact of Event Scale-Revised ($n=4$) (Table S1). Protective factors were also organized through the RPM dimensions (one study might be focused on more than one protective factor): supportive relationships ($n=35$), coping ($n=15$), environmental factors ($n=8$), regulatory strengths ($n=3$) and meaning making strengths ($n=3$), and interpersonal strengths ($n=2$).

Quality Assessment

Nine criteria were used on the current study to evaluate the quality of the methods adopted and reported in the included studies (Table 1). Except for participants and statistics, all other criteria rely on a single indicator.

Our evaluation revealed that all studies met the STROBE criteria for the study design, data sources/measurement, bias and quantitative variables. A total of 36% of the studies included met the setting criterion and 16% of the sample size criterion. None of the studies met all the indicators regarding statistical methods.

Overall Effects of Protective Factors on Symptoms

The overall effect of meaning-making strengths ($r=-.287$) on symptoms was moderated, and the overall effects of regulatory strengths ($r=-.216$) and supportive relationships ($r=-.176$) on symptoms were also significant but small. These results suggest that people who are able to make sense of their experiences, to regulate their emotions and behavior, and to foster and maintain close relationships show fewer mental health problems. The effects of coping ($r=.016$) and environmental factors ($r=-.134$) were not significant. The overall effect of each protective factor on symptoms is presented in Table 2.

Overall Effects of Protective Factors on Well-Being and Competence

The overall effects of meaning-making strengths ($r=.350$) and environmental factors ($r=.322$) on well-being were significant and moderated, suggesting that having more meaning-making strengths and environmental factors, such as family cohesion, is associated with higher levels of well-being. The effects of supportive relationships

(r=.244) and interpersonal strengths (r=.523) on well-being, and of coping on competence (r=-.040) were not significant. The overall effects for each type of protective factor on well-being and competence are presented in Tables 3 and 4.

Heterogeneity and Moderator Effects

All the factors were considered in one dataset for symptoms (data for well-being competence was insufficient to proceed with moderation analysis) and the log-likelihood ratio tests revealed significant variance on both level 2 and level 3 of the multilevel meta-analytic models. Therefore, we proceeded by testing variables as potential moderators for symptoms, as presented in Table 5. Results revealed significant differences regarding the type of sample, with the community samples presenting a significantly higher effect size (r=-.203) when compared with studies with clinical samples (r=.000). Despite no other significant moderation results, it is important to emphasize certain sample characteristics in which the effect of protective factors in symptoms is stronger. Specifically, results suggest that adult participants, including both males and females, from regions other than North America and Europe, and using others-report measures of psychopathology present the higher effect sizes.

Trim and Fill Analyses

The trim and fill analyses, together with the observation of distribution asymmetry of funnel plots, indicated that, by inputting missing studies, the overall effects of coping, meaning-making strengths, supportive relationships and environmental factors on symptoms were readjusted and presented as higher, and interpersonal strengths as lower. Also, higher effects were found for interpersonal strengths and environmental factors on well-being (Table 6).

Discussion

This meta-analysis aimed to find protective factors revealing the largest effect sizes in the resilience outcomes of CSA victims, considering the following three dimensions: symptoms, well-being and competence. A total of 50 studies were included in this review, involving 12,345 participants and 335 effect sizes. Results from this meta-analysis revealed that research has mainly focused on symptoms (e.g., anxiety, depression, PTSD, or externalizing behaviors) (Parent-Boursier & Hébert, 2015; Rahm et al., 2013) or psychological distress (e.g., Shen & Liu, 2023), with fewer studies focusing on the well-being and competence of CSA victims. This finding is consistent with a previous meta-analysis with children exposed to community violence or child maltreatment, which found that over two-thirds of the included studies were focused only on symptoms (Yule et al., 2019).

Our findings also suggest that empirical evidence on the psychological health of CSA victims lacks a multidimensional approach, as most of the studies included in the current review only focus on one specific outcome such as symptoms (and not both symptoms and well-being). This is a critical research and clinical problem, insofar as

Table 1 Quality assessment[†] of method reporting in the reviewed studies

Authors, year	Study design[a]	Setting[b]	Participants[c]	Variables[d]	Data sources/measurement[e]	Bias[f]	Sample size[g]	Quantitative variables[h]	Statistical methods[i]
1. Amédée et al., 2024	●	○	●◇	●	●	●	○	●	●●●●○
2. Bal et al., 2005	●	○	●◇	●	●	●	○	●	●○●●○
3. Balaji et al., 2025	●	●	●◇	●	●	●	○	●	●●●●○
4. Blankenship & Hogge, 2024	●	○	●◇	●	●	●	○	●	●○●◇○
5. Bolen & Lamb, 2007	●	○	●◇	●	●	●	○	●	●○○◇○
6. Charest et al., 2019	●	○	●◇	●	●	●	○	●	●●●●○
7. Coohey, 2010	●	●	●◇	●	●	●	○	●	●●●◇○
8. Daignault & Hébert, 2008	●	○	●◇	●	●	●	○	●	●●○●○
9. Daigneault et al., 2004	●	●	●◇	●	●	●	○	●	●○●◇○
10. Daigneault et al., 2006	●	●	●◇	●	●	●	●	●	●○○◇○
11. Dube & Rishi, 2017	●	●	●◇	●	●	●	○	●	●●○◇○
12. Dufour & Nadeau, 2001	●	○	●○	●	●	●	○	●	●●○◇○
13. Easton & Renner, 2013	●	●	●◇	●	●	●	○	●	●○●◇○
14. Foley et al., 2022	●	●	●●	●	●	●	●	●	●●●◇○
15. Gall et al., 2007	●	○	●◇	●	●	●	○	●	●●○◇○
16. Gall, 2006	●	●	●◇	●	●	●	○	●	●●○◇○
17. Hébert et al., 2018	●	○	●◇	●	●	●	○	●	●●●◇○
18. Hinson et al., 2002	●	○	●◇	●	●	●	○	●	●○○◇○
19. Hirai et al., 2020	●	○	●◇	●	●	●	○	●	●●●◇○
20. Irmak et al., 2016	●	○	●◇	●	●	●	○	●	●●○◇○
21. Jean-Thorn & Hébert, 2025	●	○	●◇	●	●	●	○	●	●○●●○
22. Johnson & Kenkel, 1991	●	○	●◇	●	●	●	○	●	●○○◇○
23. Jouriles et al., 2023	●	●	●◇	●	●	●	●	●	●●●◇○
24. King et al., 2015	●	○	●◇	●	●	●	○	●	●●●●○
25. Lam, 2015	●	○	●◇	●	●	●	○	●	●●○◇○

Table 1 (continued)

Authors, year	Study design[a]	Setting[b]	Participants[c]	Variables[d]	Data sources/measurement[e]	Bias[f]	Sample size[g]	Quantitative variables[h]	Statistical methods[i]
26. Leitenberg, 1992	●	○	●◇	●	●	●	○	●	●○○◇○
27. Long & Jackson, 1993	●	○	●◇	●	●	●	○	●	●●○◇○
28. Mannarino & Cohen, 1996a	●	●	●◇	●	●	●	○	●	●●○◇○
29. Mannarino & Cohen, 1996b	●	●	●◇	●	●	●	○	●	●●○◇○
30. McClure et al., 2008	●	○	●◇	●	●	●	○	●	●◇●◇○
31. Musliner & Singer, 2014	●	●	●◇	●	●	●	○	●	●●●●○
32. Parent-Boursier & Hébert, 2015	●	○	●◇	●	●	●	○	●	●○○◇○
33. Prowell & Williams, 2021	●	●	●◇	●	●	●	●	●	●●●◇○
34. Rahm et al., 2013	●	●	●◇	●	●	●	○	●	●○○◇○
35. Ray & Jackson, 1997	●	○	●●	●	●	●	○	●	●●○◇○
36. Reyes, 2008	●	○	●◇	●	●	●	●	●	●○○◇○
37. Rosenthal et al., 2003	●	○	●◇	●	●	●	○	●	●●●●○
38. Shen & Liu, 2023	●	○	●◇	●	●	●	○	●	●○●◇○
39. Simon et al., 2015	●	●	●◇	●	●	●	○	●	●●●●○
40. Sitton et al., 2025	●	○	●◇	●	●	●	●	●	●●●◇○
41. Snow et al., 2022	●	○	●◇	○	●	●	○	●	●○●◇○
42. Steine et al., 2020	●	●	●◇	●	●	●	○	●	●○●●○
43. Tremblay et al., 1999	●	○	●◇	●	●	●	○	●	●○○◇○
44. Wamser-Nanney et al., 2018	●	●	●◇	●	●	●	○	●	●●●◇○
45. Wamser -Nanney, 2018	●	○	●◇	●	●	●	○	●	●●●◇○
46. Wilson & Scarpa, 2014	●	○	●◇	●	●	●	●	●	●●●◇○
47. Wilson et al., 2019	●	○	●◇	●	●	●	●	●	●●●◇○
48. Wright et al., 2005	●	○	●◇	○	●	●	○	●	●●○◇○

Table 1 (continued)

Authors, year	Study design[a]	Setting[b]	Participants[c]	Variables[d]	Data sources/measurement[e]	Bias[f]	Sample size[g]	Quantitative variables[h]	Statistical methods[i]
49. Yama et al., 1993	●	○	●●	●	●	●	○	●	●●○◇○
50. Zajac et al., 2015	●	●	●◇	●	●	●	○	●	●○●●○

Note. †The criteria used to assess quality of method reporting are taken from the STrengthening the Reporting of OBservational studies in Epidemiology Statement (STROBE; Vandenbroucke et al., 2007)

●=met the STROBE recommendation; ○=did not meet the STROBE recommendation; ◇=not a relevant indicator

[a] One indicator: presentation of key elements of study design early in the paper

[b] One indicator: description of information related to the setting, locations, periods of recruitment

[c] Two indicators: (1) description of eligibility criteria, sources and methods of participant selection; and (2) matching criteria and number of exposed/unexposed or number of controls per case when appropriate

[d] One indicator: clear definition of outcomes, exposures, predictors, potential confounders

[e] One indicator: sources of data and details of measurement methods

[f] One indicator: description of any efforts to address potential sources of bias

[g] One indicator: description of how the sample size was determined

[h] One indicator: explanation of how quantitative variables were managed in the analysis

[I] Five indicators: (1) description of all statistical methods; (2) description of any methods used to examine subgroups and interactions; (3) explanation of missing data management; (4) explanation of how loss to follow-up, matching of cases and controls or sampling strategies were addressed; and (5) description of sensitivity analyses

Table 2 Results for the Overall Mean Effect Sizes of the Protective Factors in Symptoms

Type of protective factor	# Studies	# ES	Fisher's *z* (SE)	95% CI	Sig. mean z (*p*)	Mean *r*	% Var. level 1	Level 2 variance	% Var. level 2	Level 3 variance	% Var. level 3
Coping	15	52	-.016 (.079)	−0.174, 0.142	.836	-.016	9.79	.006*	6.46	.083***	83.75
Meaning-making strengths	3	17	-.295 (.048)	−0.397, −0.194	<.001	-.287	44.05	.014**	49.58	.002	6.38
Regulatory strengths	4	27	-.219 (.046)	−0.314, −0.125	<.001	-.216	11.71	.047***	88.29	.000	0.00
Interpersonal strengths	3	12	-.176 (.070)	−0.331, −0.021	.030	-.174	21.84	.008***	33.72	.010	44.44
Supportive relationships	28	170	-.178 (.025)	−0.228, −0.128	<.001	-.176	13.01	.021***	59.99	.009***	27.01
Environmental factors	5	31	-.135 (.074)	−0.285, 0.015	.077	-.134	25.29	.015***	33.76	.018	40.95

Note. # Studies = number of studies; # ES = number of effect sizes; SE = standard error; CI = confidence interval for Fisher's *z*; Sig. mean *z* = level of significance of mean effect size; Mean *r* = mean effect size (Pearson's correlation); % var = percentage of variance; Level 2 variance = variance between effect sizes within studies; Level 3 variance = variance between studies

*p<.05; ** p<.01; *** p<.001

Table 3 Results for the Overall Mean Effect Sizes of Protective Factors in Well-being

Type of protective factor	# Studies	# ES	Fisher's *z* (SE)	95% CI	Sig. mean z (*p*)	Mean *r*	% Var. level 1	Level 2 variance	% Var. level 2	Level 3 variance	% Var. level 3
Meaning-making strengths	1	3	.366 (.058)	0.115, 0.617	.024	.350	-	-	-	-	-
Interpersonal strengths	2	2	.580 (.190)	−1.837, 2.997	.202	.523	-	-	-	-	-
Supportive relationships	4	12	.249 (.122)	−0.020, 0.518	.067	.244	2.19	.003**	4.45	.055***	93.36
Environmental factors	2	4	.334 (.058)	0.150, 0.517	.010	.322	100	.000	0.00	.000	0.00

Note. # Studies = number of studies; # ES = number of effect sizes; SE = standard error; CI = confidence interval for Fisher's *z*; Sig. mean *z* = level of significance of mean effect size; Mean *r* = mean effect size (Pearson's correlation); % var = percentage of variance; Level 2 variance = variance between effect sizes within studies; Level 3 variance = variance between studies

*p<.05; ** p<.01; *** p<.001

Table 4 Results for the Overall Mean Effect Sizes of Protective Factors in Competence

Type of protective factor	# Studies	# ES	Fisher's *z* (SE)	95% CI	Sig. mean z (*p*)	Mean *r*	% Var. level 1	Level 2 variance	% Var. level 2	Level 3 variance	% Var. level 3
Coping	1	2	-.040 (.081)	−1.071, 0.991	.708	-.040	-	-	-	-	-

Note. # Studies = number of studies; # ES = number of effect sizes; SE = standard error; CI = confidence interval for Fisher's *z*; Sig. mean *z* = level of significance of mean effect size; Mean *r* = mean effect size (Pearson's correlation); % var = percentage of variance; Level 2 variance = variance between effect sizes within studies; Level 3 variance = variance between studies

*$p<.05$; ** $p<.01$; *** $p<.001$

psychological health is best understood if we concurrently consider both symptoms and well-being (Grych et al., 2015; Hamby et al., 2018; Magalhães, 2024). The lack of clinical symptoms does not mean that CSA victims experience positive adaptation, which requires further efforts to fully assess the psychological health of these victims using a multidimensional lens. Adopting this approach might enable the implementation of more effective and theoretically driven prevention and clinical intervention strategies for these victims (Grych et al., 2015; Yule et al., 2019). Moreover, we found that well-being was explored mostly in studies that used adult samples, which suggests that research from a multidimensional approach with children and young people victims of CSA is even more pressing. In fact, previous evidence suggests that specific protective factors seem to foster well-being but not symptoms (Yule et al., 2019), which requires additional evidence regarding which factors predict well-being and competence.

Considering all the protective factors identified in the current meta-analytic review, meaning-making strengths produced the largest effect sizes on psychological health. In addition, it was the only protective factor significantly associated with both lower symptoms and higher well-being. This finding reveals that the ability to make sense of life experiences is a key factor in fostering psychological health (Fitzke et al., 2021; Grych et al., 2015). Meaning-making processes, such as seeking spiritual and personal fulfilment (Hamby et al., 2018), might enable people to make sense and coherence on their life experiences, which in turn might be associated with lower psychological difficulties (Park, 2013) and greater well-being (Park, 2022). Studies have shown that expressing and/or writing about traumatic experiences might positively impact victims' physical and psychological health because these experiences seem to facilitate the active meaning-making process (Frattaroli, 2006; Frisina et al., 2004; Smyth, 1998). Processing the abusive experience alone is not enough to promote victims' adaptation, but when this process results in a new coherent narrative about the experience it seems to contribute to an adaptive recovery (Park, 2010, 2013; Sloan et al., 2007). Therefore, meaning-making processes may empower CSA victims by providing beneficial framing of their experiences. An adaptive cognitive and emotional processing of CSA might be associated with healthier psychological functioning (e.g., Gall et al., 2007; Simon et al., 2010). This evidence highlights that increasing meaning-making processes among CSA victims may provide them with the required strengths and skills to thrive after adversity (Manco & Hamby, 2021) and

Table 5 Results for Categorical Moderators (Bivariate Models) – Symptoms

Moderators	# Studies	# ES	Intercept (95% CI)/ mean *z* (95% CI)	Mean *r*	*β* (95% CI)	*F* (df1, df2)[a]	*p*[b]	Level 2 variance	Level 3 variance
Type of participants						2.727 (1, 309)	.100	.024***	.018***
Children and adolescents (RC)	22	195	-.113 (−0.179, −0.046)	-.113					
Adults	21	116	-.196 (−0.269, −0.122)	-.194	-.083 (−0.182, 0.016)				
Type of sample						4.645 (3, 307)	.003	.023***	.014***
Community (RC)	16	69	-.203 (-.281, −0.125)	-.200					
Clinical	6	38	.000 (−0.104, 0.104)	.000	.222 (0.088, 0.355)**				
Forensic	15	106	-.195 (−0.270, −0.121)	-.193	.009 (−0.097, 0.114)				
Mixed	7	98	-.118 (−0.215, −0.022)	-.117	.093 (−0.034, 0.220)				
Gender						1.831 (2, 308)	.162	.024	.019
Males (RC)	3	16	-.046 (−0.216, 0.124)	-.046					
Females	18	136	-.108 (−0.185, −0.031)	-.108	-.062 (−0.238, 0.113)				
Both	23	159	-.191 (−0.259, −0.124)	-.189	-.145 (−0.328, 0.038)				
Psychopathology measure						1.239 (1, 309)	.267	.024***	.019***
Self-report (RC)	35	223	-.140 (−0.193, −0.087)	-.139					
Others-report	14	88	-.180 (−0.031, 0.111)	-.178	-.040 (−0.111, 0.031)				
Region of data collection						1.067 (2, 308)	.345	.024	.019
North America (RC)	38	280	-.138 (−0.192, −0.085)	-.137					

Table 5 (continued)

Moderators	# Studies	# ES	Intercept (95% CI)/ mean *z* (95% CI)	Mean *r*	*β* (95% CI)	*F* (df1, df2)[a]	*p*[b]	Level 2 variance	Level 3 variance
Europe	3	18	-.196 (−0.379, −0.014)	-.194	-.058 (−0.248, 0.132)				
Others	2	13	-.311 (−0.555, −0.067)	-.301	-.173 (−0.422, 0.076)				

Note. # Studies = number of studies; # ES = number of effect sizes; Mean *r* = mean effect size (*r*); CI = confidence interval; *β* = estimated regression coefficient; RC = reference category; Level 2 variance = variance between effect sizes within studies; Level 3 variance = variance between studies

*** $p < .001$

[a] Omnibus test of all regression coefficients in the model

[b] p-value of the omnibus test

Table 6 Results for the Overall Mean Effect Sizes After Conducting Trim and Fill Analyses

Outcome	Type of protective factor	# Studies	# ES	Fisher's *z* (SE)	95% CI	Sig. mean z (*p*)	Mean *r*
Symptoms	Coping	31	68	.064 (.037)	−0.009, 0.138	.086	.064
	Meaning-making strengths	7	21	-.336 (.042)	−0.417, −0.254	<.001	-.324
	Regulatory strengths	-	-	-	-	-	-
	Interpersonal strengths	8	17	-.112 (.037)	−0.185, −0.039	.003	-.112
	Supportive relationships	65	207	-.225 (.016)	−0.257, −0.193	<.001	-.221
	Environmental factors	10	36	-.020 (.036)	−0.090, 0.050	.575	-.020
Well-being	Meaning-making strengths	-	-	-	-	-	-
	Interpersonal strengths	3	3	.758 (.215)	0.337, 1.180	<.001	.640
	Supportive relationships	-	-	-	-	-	-
	Environmental factors	3	5	.352 (.052)	0.251, 0.453	<.001	.338
Competence	Coping	-	-	-	-	-	-

Note. # Studies = number of studies; # ES = number of effect sizes; SE = standard error; CI = confidence interval for Fisher's *z*; Sig. mean *z* = level of significance of mean effect size; Mean *r* = mean effect size (Pearson's correlation)

* $p < .05$; ** $p < .01$; *** $p < .001$

that health promotion programs may target this protective factor as it is likely to be more valuable for CSA victims (Yule et al., 2019).

Furthermore, we found that different strengths seemed to be specifically related to distinctive psychological health outcomes. While regulatory strengths and supportive

relationships were associated with lower symptoms (but not higher well-being), environmental strengths were associated with higher well-being but not lower symptoms. These findings suggest that regulatory strengths may be crucial to enabling CSA victims to manage the stress they experience by providing them with an effective way to control the intensity of their reactions to stressful events (Grych et al., 2015) and to manage their emotions and impulses (Hamby et al., 2018), which in turn might lessen psychological symptoms. In addition, supportive relationships may be critical in enabling CSA victims to deal with psychological distress through the emotional and instrumental support they receive. This support might empower victims to feel more confident in dealing with the CSA experience and its consequences (Gewirtz-Meydan, 2020; Grych et al., 2015). In particular, the support provided by non-abusive caregivers, other relatives, or even peers might lower victims' psychological difficulties as they felt secured and validated (Domhardt et al., 2015; Sanjeevi et al., 2018).

Additionally, environmental strengths mostly involved aspects of family cohesion and adaptability, which suggests that the family environment is particularly important for enhancing CSA victims' well-being. A family is the primary socialization context and where people spend more time, and for that reason, it has a great impact on the psychological functioning (Mendes-Sousa et al., 2025). A solid family environment and family cohesion are described in the literature as being associated with positive functioning, adaptation, and resilience, particularly for individuals experiencing complex trauma (Daniels & Bryan, 2021). The ability of a family to provide an environment of care, compassion, and love through a balanced, structured, connected, and flexible environment (Joh et al., 2013) might be particularly protective for CSA victims who might have experienced complex trauma (i.e., related to CSA and judicial processes). Finally, two studies included children's participation in extracurricular activities as an environmental strength that is widely documented as enabling community integration, social inclusion, and well-being (Yule et al., 2019). Community-level characteristics (other than those related to the family environment) should be further explored with CSA victims to enhance our knowledge on the role of these factors in resilience (Banyard et al., 2025).

Lastly, although we have identified many effect sizes on the relationship between coping and the three dimensions of psychological health, non-statistically significant effects were found. This finding was surprising since previous evidence has highlighted the positive role of adaptive coping on resilience outcomes (Domhardt et al., 2015; Marriot et al., 2014; Sanjeevi et al., 2018). The lack of significant effects may indicate that coping strategies only have an impact on the psychological health of CSA victims in the presence of other protective factors, such as contextual resources (e.g., family support and cohesion), which requires further analysis to explore the potential additive or protective cumulative role of these factors. According to the RPM, healthy adaptation after experiencing abuse is better understood by additive and buffering mechanisms (Grych et al., 2015). However, this review did not identify or test these effects.

Regarding the moderating effects, significant differences regarding the type of sample were found with the community samples presenting a significantly higher effect size when compared with studies involving clinical samples, on symptoms. This result seems to suggest that the psychological difficulties in clinical samples

might be more severe and complex, and protective factors less likely to have a significant effect. Even though the moderating effects of sample age and geographical regions were not statistically significant in our meta-analytic review, our findings suggest that adult participants, including both males and females, from regions other than North America and Europe, and using others-report measures of psychopathology present the higher effect sizes. This is an interesting finding in the current meta-analysis considering that there were more studies from North American and Europe than other regions which is consistent with recent evidence suggesting limited knowledge on the healing processes in regions other than North America or Western Europe (Hamby & Yoon, 2024). Also, according to the RPM, resilience is a developmental process occurring throughout lifespan, and adults can present more life experiences promoting resilience than children and adolescents.

These results provide innovative insights into the role of different protective factors in the psychological health of CSA victims. However, it is important to acknowledge that variations in how CSA was defined across studies (age cutoffs, contact vs. non-contact, disclosure vs. substantiated cases) might impact the extent of findings. Also, the lack of consistency in measuring CSA characteristics (e.g., duration, relationship to perpetrator, gender of perpetrator, severity, chronicity), which are known to shape survivors' trajectories, might be further explored in the future. Moreover, the lack of information about sexual and gender minority populations and the limited geographic representation are critical and must be acknowledged in future research. Finally, analyses of small-study effects indicated possible publication bias given the asymmetrical funnel plots, but only for the interpersonal strengths. Trim-and-fill analyses suggested that the true pooled effect may be smaller than the obtained estimate, indicating that this result should be interpreted as potentially biased.

Furthermore, although this study significantly advances the field of science focused on healing from a strength's perspective, there are a few limitations that should be ascertained. First, we only included peer-reviewed studies, which, despite increasing the likelihood of reliable evidence being included in the analyses, may have left out significant evidence from the grey literature. Second, even though we asked authors from primary studies to share their full texts or additional statistics that we needed to run the analysis when they were missing, we received very few responses, which prevented us from including a greater amount of studies. Finally, additive, buffering, or other mechanisms postulated in the RPM (Grych et al., 2015) were not tested. Instead, we only considered the main effects of these protective factors on the psychological health of CSA victims. Despite these limitations, this meta-analysis might inform clinical practice, prevention and promotion programs, and strategies targeting the psychological health of CSA victims.

Considering the role of meaning-making strengths both on psychological distress and well-being, clinical interventions with CSA victims might benefit from including mindfulness and narrative approaches (Manco & Hamby, 2021) as well as trauma-informed models to foster their psychological health (Cohen et al., 2018). Trauma processing is crucial to make sense to traumatic experiences, which then enable victims to integrate and consolidate their sense of security and confidence (Cohen et al., 2012, 2018). Additionally, involving significant others such as non-abusive caregiv-

ers or other relatives in the therapeutic process might heighten the success of interventions targeting CSA victims' resilience (Cohen et al., 2018).

Lastly, several implications for future research should be summarized. Most studies have been carried out in North America, which suggest that more cross-cultural research is needed, given the diversity of legal and cultural backgrounds that frame CSA experiences. Still, most of the studies focused only on symptoms outcomes, which require further efforts to implement studies based on a multidimensional approach of mental health, and especially with children and adolescents. Finally, research should explore further environmental resources (beyond the family) such as the role of culture, or schools and community climate, and interpersonal strengths such as gratitude or compassion, which might provide a deeper understanding on the resilience portfolio of CSA victims (Grych et al., 2015).

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