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Polyvictimization and psychopathology among children and adolescents: A systematic review of studies using the Juvenile Victimization Questionnaire

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ABSTRACT

Background: Exposure to child abuse can lead to lasting mental health problems. Extant research has found that different types of child abuse tend to co-occur and overlap, which merits the investigation of the effects of exposure to multiple types of childhood mistreatment.

Objective: The aim of this study was to systematically review the evidence on the associations between multiple different types of interpersonal victimization or polyvictimization, and indicators of psychopathology among children ages 0–17.

Methods: The review included studies across all economic strata and research on nationally representative, community, and at-risk samples, using the same standardized assessment tool (i.e. the Juvenile Victimization Questionnaire or JVQ). The review was conducted using peer-reviewed evidence published up until August 2019 from Scopus, EMBASE, PsycINFO, Medline, CINAHL, and ERIC. Out of 4998 relevant references screened, 255 met the inclusion criteria, 22 of which aimed to address childhood polyvictimization and psychopathology.

Results: A total of 21 of the 22 included studies identified a significant positive association between polyvictimization and various indicators of psychopathology comprising both externalizing (e.g. anger), internalizing problems (e.g. depression) and total psychological distress. A range of studies demonstrated that polyvictimization was a stronger risk factor for psychopathology than individual (sub)types of victimization. Based on the study findings, we provide a set of recommendations for future research on polyvictimization and psychopathology.

Conclusion: The present systematic review was the first to review the evidence on the associations between polyvictimization (as measured by the JVQ) and child and adolescent psychopathology in the global research literature. As a novel approach, the present review included both normative and high-risk samples. The results showed that polyvictimization is a substantial risk factor for mental health problems spanning both inner-directed and outer-directed mental health

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difficulties. However, the inconsistency in methods of defining and measuring polyvictimization severely undermines the scientific impact of this body of work.

Additional well-designed, longitudinal studies that take account of the context-specific nature of polyvictimization are required to better establish the causal relationships between childhood polyvictimization and psychopathology so as to improve prevention and intervention efforts.

1. Introduction

Child maltreatment is a universal concern with serious and lasting consequences. Recent estimates indicate that globally, up to one billion children ages 2–17 have been exposed to physical, emotional, or sexual abuse in the past year (World Health Organization, 2017). Accurately determining rates of child maltreatment remains challenging, however, due to the varied definitions of child abuse used across countries and legal settings (Rumble, Ramly, Nuryana, & Dunne, 2018). Different types of child abuse and neglect have both short and long-term negative impact on mental and physical health (Anda et al., 2006; Finkelhor & Browne, 1985; Norman et al., 2012; Wegman & Stetler, 2009). Research further indicates that children exposed to one type of maltreatment are likely to experience additional forms of mistreatment, and that different types of childhood traumatic experiences tend to co-occur, overlap, and interact (Cloitre et al., 2009; Debowska, Willmott, Boduszek, & Jones, 2017). Moreover, rates of child maltreatment and co-occurrence of different forms of child ill-treatment are elevated among certain disadvantaged or at-risk populations, such as youth offender samples or children in contact with the welfare system (Cyr et al., 2012; Debowska & Boduszek, 2017; Ford, Grasso, Hawke, & Chapman, 2013; Kretschmar, Tossone, Butcher, & Flannery, 2016; Pereda, Gallardo-Pujol, & Guilera, 2018).

Exposure to multiple types of traumatic events, particularly interpersonal traumas - also conceptualized as victimizations - is an especially strong predictor of mental health problems and antisocial behaviour in peer and intimate partner relationships (Finkelhor, Turner, Hamby, & Ormrod, 2011; Wolfe, 2018). Despite the known likelihood of co-occurring traumatic experiences however, research on child maltreatment has predominantly focused on single types of child abuse and their impact on health outcomes (DeHart & Moran, 2015). This failure to account for the possibility of co-occurring victimizations results in the potential for bias and an overestimation of the impact of individual types of childhood harms on mental health (Grasso, Greene, & Ford, 2013). An investigation of the full burden of victimizations, and their association with mental health among children and youth, is yet necessary to fully understand the complex intersections of childhood harms and their impact, and to identify and intervene for those children most at risk (Finkelhor, Ormrod, & Turner, 2007; Gustafsson, Nilsson, & Svedin, 2009).

1.1. The concept of polyvictimization

In 2005, Finkelhor et al. introduced the concept of polyvictimization to capture the experience of *multiple* and *distinct* types of child victimizations (e.g., sexual abuse, bullying, physical violence) and their noted consequences among children and adolescents (Finkelhor, Ormrod, Turner, & Hamby, 2005). The concept of polyvictimization has been defined and operationalized in different ways across the literature, including cumulative, categorical, and empirical approaches to the concept (Adams et al., 2016; Ford & Delker, 2018).

1.2. Polyvictimization and psychopathology

Despite the differing approaches to the concept of polyvictimization, a substantial body of research shows that exposure to multiple victimization events increases risk for psychosocial problems in childhood and later life (Debowska et al., 2017; O'Donnell et al., 2017). A recent informative and well-designed systematic review and meta-analysis of polyvictimization prevalence and associated mental health problems among children and adolescents in low- and low-middle-income countries found that childhood polyvictimization was associated with an increased likelihood of mental health difficulties including posttraumatic stress disorder (PTSD), depression, anxiety, low self-esteem, and behavioural disorders (Le, Holton, Romero, & Fisher, 2016). A key limitation identified by the authors, however, was that though all studies examined a broad range of victimizations, only a minority of studies reported on polyvictimization prevalence. Additionally, given the inconsistent manner in which victimization was measured and polyvictimization was operationalized across the literature, associations with mental health problems could only be estimated using a small number of studies (Le et al., 2016). Also, the review by Le et al. (2016) focused on polyvictimization and mental health solely in lower-income countries and among children and adolescents in the general community, thereby excluding studies representing high-risk groups such as children in refugee camps or juvenile detention centres. A comprehensive global review of studies specifically addressing the issue of polyvictimization and describing the associations between polyvictimization and psychopathology across all economic strata, including both community and non-community settings, is therefore warranted to enhance the knowledge on child polyvictimization and associated mental health.

To ensure consistency and comparability across studies, the current review sought to identify studies that used the same validated assessment tool, the Juvenile Victimization Questionnaire (JVQ) (Hamby, Finkelhor, Ormrod, & Turner, 2005), to measure polyvictimization. To the best of our knowledge, this is the first, global systematic literature review investigating the association between polyvictimization, as measured by the JVQ, and child and adolescent (0–17 years) psychopathology. Identifying and understanding the impact of polyvictimization on mental health globally and across different child life conditions is of great clinical importance since

this information can inform adaptations to treatment programmes to meet the specific requirements of children exposed to multiple different types and patterns of childhood victimization (Ford & Delker, 2018; Shevlin, Murphy, Elklit, Murphy, & Hyland, 2017). Based on the present study findings, we provide a set of recommendations for future research on polyvictimization and psychopathology.

2. Methods

2.1. Protocol

This review aligns with PRISMA-P (Preferred Reporting Items for Systematic review and Meta-Analysis Protocols) 2015 Checklist (Moher et al., 2015).

2.2. Eligibility criteria

The current review has a global scope including studies from low, middle, and high-income countries, and includes studies based on nationally representative, community, and at-risk samples. The present review includes studies published from 2005, the year when the polyvictimization concept was first introduced in the literature, to July 30th 2019, when studies were retrieved. We draw on Finkelhor (2008)'s definition of victimizations as interpersonal events or acts caused by a person or persons acting in violation of social norms. As no agreed-upon cut-off point exists to define polyvictimization (Finkelhor, Turner et al., 2011), and being cognizant of recommendations from prior reviews of the polyvictimization literature (Le et al., 2016), no specific numerical threshold was set to define polyvictimization status in this review and any approach to defining polyvictimization (e.g. cumulative, categorical, empirical) or any timeframe for measurement (e.g. past year or lifetime) was accepted. Thus, the current review applies the broader definition of polyvictimization inspired by the conceptualization of polyvictimization presented by Finkelhor as multiple victimization exposures of different kinds (Finkelhor, Turner et al., 2011).

Studies were included that: (a) assessed at least four different forms of victimizations (title and abstract screening) to ensure that the element of multiplicity and comprehensiveness in the measurement of victimizations was satisfied and to align with existing review procedures (Hellström, 2019; Le et al., 2016) and (b) studies using the JVQ to measure victimizations (full text screening). The JVQ is a widely used standardized and validated measurement of child and adolescent interpersonal victimizations (Aho, Proczkowska-Björklund, & Svedin, 2016; Finkelhor et al., 2005; Gren-Landell, Aho, Andersson, & Svedin, 2011). The JVQ was furthermore chosen as it covers all the major forms of offenses against youth and represents a more comprehensive and specific measurement approach than other existing tools for measuring acts of childhood mistreatment (Grasso et al., 2013; Pereda et al., 2018). The original JVQ measures 34 forms of offenses against youths covering five domains/modules: conventional crime, child maltreatment, peer and sibling victimization, sexual victimization, and witnessing and indirect victimization (Finkelhor et al., 2005), with each module entailing a set of sub-items. More recently, exposure to family violence, school violence and threat, electronic victimization, and supplementary neglect items, have been added (Finkelhor, Ji, Mikton, & Dunne, 2013). A caregiver-report or proxy version is used in samples with children ages 0–11, a child interview can be used with individuals ages 8–17, whereas a self-report version of the instrument is administered by adolescents ages 12–17 (Hamby et al., 2005).

2.3. Inclusion criteria

Studies were selected based on the following inclusion criteria: (1) Samples consisted of child and/or adolescent populations aged 0–17 years; (2) Quantitative methodology, primary empirical studies (e.g., cross-sectional, experimental, or longitudinal) covering all countries, research settings, and sample types; (3) Studies assessing at least four different types of interpersonal victimizations (i.e. past year or lifetime), and studies employing the JVQ to assess victimization exposures; (4) Studies investigating polyvictimization as the predictor (independent variable) of all forms of psychopathology; (5) Any possible definitions of and approaches to polyvictimization (e.g., cumulative, categorical, empirical); (6) Studies examining child and/or adolescent psychopathology as the outcome/criterion variable of polyvictimization in which psychopathology was measured using a psychometrically validated measure; (7) Peer-reviewed empirical studies published from 2005 onwards and studies in English or Scandinavian languages. A full table of the eligibility criteria can be found in the supplementary material.

2.4. Information sources and search strategy

The literature search was conducted on July 30th, 2019 in the following six literature databases: Scopus, EMBASE, PsycINFO, Medline, CINAHL, and ERIC. Supplementary to this, the reference lists of the selected studies were screened for additional relevant studies, with no additional studies identified through this step. The search strategy was designed to specifically target and capture the *poly/multiplicity* aspect of victimization. Given that different terms are often used interchangeably to describe multiple victimization exposures, a wide range of related search terms were used to ensure a comprehensive search strategy. For example, the following terms with relevant synonyms were searched within each database: (polyvictim*) OR (cumulative* trauma*) OR (multi* victim*). Database searches were limited to abstracts and titles. The full search strategy and list of search terms can be found in the supplementary material.

2.5. Data management and selection

The search produced 4998 references which were imported into the referencing software Covidence and Endnote. After removal of duplicates, a total of 3998 unique studies were screened based on the title and abstract, which resulted in 255 studies for full-text review. A total of 22 studies were retained and included in the current review. Screening and reviewing were conducted by two independent reviewers. Fig. 1 presents the flow diagram of selected studies.

2.6. Study characteristics

The characteristics of the included studies are summarized in Table 1. In terms of the different measures of associations between polyvictimization and psychopathology, higher beta coefficients (B and β), indicated greater relevance and stronger effects of the risk factor variable (polyvictimization) which supports the assumption that high exposure level, in this case multiple victimization, increases the response variable (i.e. forms of psychopathology) (Nieminen, Lehtiniemi, Vähäkangas, Huusko, & Rautio, 2013). Aligning with existing research standards, for odds ratios (ORs), cut-off values were considered: 1.50 (small), 2.00 (medium), and 3.00 (large) (Smit et al., 2018).

2.7. Quality assessment of individual studies

The quality of each of the selected studies were evaluated using an adapted version of the quality assessment tool: the Standard Quality Assessment Criteria for Evaluating Primary Research Papers, or “QualSyst” (Kmet, Lee, & Cook, 2004). This tool facilitates an

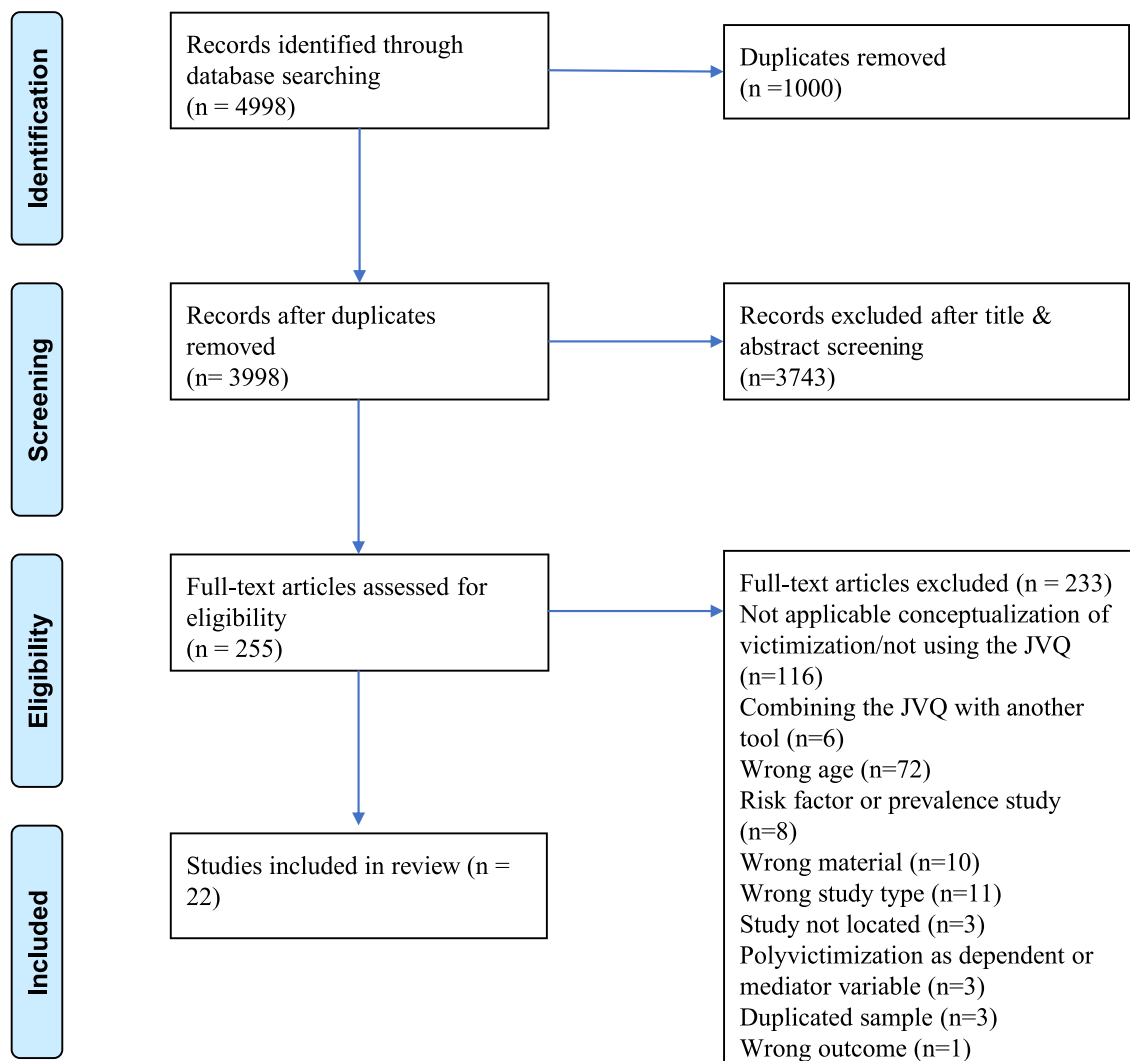


Fig. 1. PRISMA flow chart.

Table 1
Study Characteristics.

Study number	Authors, year & country	Sample & study type	Definition of PV & timeframe for measurement	Psychopathology measurement tool	Association PV and psychopathology [95 % Confidence Intervals]	Qual. syst. score
1	(Álvarez-Lister et al., 2016), Spain	n = 100 young offenders Age range 14–17, 81 % males CSS	3 (LT)	YSR	Severe externalizing symptomatology (T ≥ 65): OR = 3.136** [1.265, 7.773] Severe internalizing symptomatology (T ≥ 65): NS Total problem scale (psychosocial impairment): (T ≥ 65): OR = 2.878* [1.035, 8.002]	96
2	(Álvarez-Lister et al., 2014), Spain	n = 132 adolescent outpatients Age range 12–17, 63.6 % females CSS	3 (LT)	YSR	Severe internalizing symptomatology (T ≥ 65): OR = 4.977* [1.689, 14.665] Severe externalizing symptomatology (T ≥ 65): OR = 5.834** [1.935, 17.588] Total problem scale (general psychosocial impairment) (T ≥ 65): OR = 8.468*** [2.770, 25.892]	100
3	(Babchishin & Romano, 2014), Canada	n = 213 caregivers of children Child age range 6–12, 52,6 % males CSS	2b (LT)	TSCYC	Posttraumatic symptoms: B = .36* Anxiety: B = .33*** Depression: B = .27*** Aggression/anger: B = .29***	96
4	(Bashir & Dasti, 2015), Pakistan	n = 77 street children Age range 9–13 Males only CSS	4 (LT)	MHI	Psychological distress (Anxiety, Depression, Loss of Behavioral/Emotional Control): F = 8.66*** R ² = .33	65
5	(Chan, 2013), China	n = 18,341 adolescents Age range 15–17, 53.3 % males CCS	2a (LT&PY)	UCLA PTSD Index & BDI-II	PTSD: 1,4 % *** (LT & PY PV) (proportion) Depression: 17,0 %*** (LT PV) (proportion), 17,6 %*** (PY PV) (proportion)	96
6	(Chen & Chan, 2016), China	n = 793 rural children Age range 10–16, 52 % males CSS	2a (PY)	CES-DC	Depression: AOR = 4.39*** [2.57, 7.50]	94
7	(Cyr et al., 2017), Canada	n = 1,400 adolescents Age range 12–17, 49.7 % males CSS	1(LT)	TSCC	Depression: β = .277*** Anger/aggression: β = .313*** PTSD: β = .311***	100
8	(Cyr et al., 2014), Canada	n = 1,401 caregivers of children Child age range 2–11, 51 % males CSS	1(LT)	TSCYC	Depression symptoms: β = .377*** Anger symptoms: β = .328*** Anxiety symptoms: β = .224***	100
9	(Finkelhor, Shattuck et al., 2011), The U.S.	n = 4,046 children and caregivers Child age range 2–17, Sex distribution not reported CSS	2b (PY)	TSCC & TSCYC	Trauma symptoms: β = .48*** (2–5 years), β = .40*** (6–9 years), β = .48*** (10–13 years), β = .43*** (14–17 years)	88
10	(Finkelhor et al., 2007a), The U.S.	n = 2,030 children and caregivers Child age range 2–17, 51 % males CSS	1&2a (PY)	TSCC & TSCYC	2–9 years/10–17 years Anxiety: β = .19**/ β = .33** Depression: β = .32**/β = .38**	100

(continued on next page)

Table 1 (continued)

Study number	Authors, year & country	Sample & study type	Definition of PV & timeframe for measurement	Psychopathology measurement tool	Association PV and psychopathology [95 % Confidence Intervals]	Qual. syst. score
11	(Hickman et al., 2013), The U.S.	n = 768 children/ caregivers recruited for intervention due to violence exposure Child mean age 4.97, SD = 2.66, 52 % females CSS	2a (LT)	TSCYC BPI BITSEA	Anger/aggression: $\beta = .34^{**}/\beta = .42^{**}$ PTSD symptoms: $\beta = .13^*$ Behaviour problems: $\beta = .19^*$	96
12	(Jackson- Hollis et al., 2017), England	n = 730 adolescents, Age range 13–16, 64.5 % females CSS	Extra-familial PV: 2a & b (PY<)	TSCC-A	(PY PV) Depression: $\beta = 3.20^{***}, \beta = 3.43^{***}$ PTS: $\beta = 2.23^{**}$ Anger: $\beta = 3.65^{***}, \beta = 3.75^{***}$ Dissociation: $\beta = 3.05^{***}$ Anxiety: NS	92
13	(Lätsch, Nett., & Hümbelin 2017), Switzerland	n = 6,749 students Age range 14–17, 52.2 % males CSS	2 (PY)	SDQ	Emotional symptoms: $\beta = .220^{***}$ Conduct problems: $\beta = .308^{***}$ Hyperactivity: $\beta = .198^{***}$ Peer problems: $\beta = .145^{***}$ Sum score: $\beta = .342^{***}$	96
14	(Mitchell, Hamby, Turner, Shattuck, & Jones, 2015), The U.S.	n = 4,114 children & caregivers Child age range 2–17, 51 % males CSS	2b (PY)	TSCC & TSCYC	2–9 years/10–17 years Depression: $\beta = .7^{**}/\beta = .8^{**}$ Anxiety: NS/ $\beta = .9^{**}$ Anger/Aggression: $\beta = .9^{***}/\beta = .9^{***}$	94
15	(Pereda et al., 2018), Spain	n = 804 adolescents Age range 12–17, 52.4 % males CSS	4 (LT)	YSR	Internalizing symptoms: $\beta = .61^*$ Externalizing symptoms: $\beta = .64^*$	96
16	(Robert-Mazaye, Clément, Cyr, & Chamberland, 2017), Canada	n = 972 caregivers of children Child age range 2–11, 51.9 % males CSS	3 (LT)	TSCYC	Anger, Depression, or Anxiety: NS	92
17	(Segura et al., 2016), Spain	n = 127 adolescents in residential care Age range 12–17, 51.2 % females CSS	2a&b (LT), high PV	YSR	Thought problems: OR = 10.731* [1.708, 67.403] Rule-breaking behaviours: OR = 8.374** [2.180, 32.165] Anxious/depressed symptoms: OR = 4.550* [1.204, 17.186] Withdrawn/depressed, attention& socialproblems, aggressive behaviour: NS	100
18	(Segura et al., 2017), Spain	n = 95 adolescents in residential facilities, Age range 12–17, 51.6 % males CSS	2a (PY)	YSR	Internalizing symptoms: OR = 5.21*** [1.88, 14.41] Externalizing symptoms: OR = 3.43*** [1.40, 8.44]	94
19	(Suárez-Soto et al., 2018), Spain	n = 277 adolescents involved in youth serving systems Age range 12–17, 64 % males CSS	2a (LT)	YSR	Suicidality: OR = 2.13** [1.186, 3.826]	98
20	(Turner et al., 2017), The U.S.	n = 13,052 children and caregivers Child age range 0–17, 51.2 % males CSS	1 (PY)	TSCC & TSCYC	Trauma symptoms: $\beta = 0.27^{***}$ [0.24–0.29] (ages 2+)	94

(continued on next page)

Table 1 (continued)

Study number	Authors, year & country	Sample & study type	Definition of PV & timeframe for measurement	Psychopathology measurement tool	Association PV and psychopathology [95 % Confidence Intervals]	Qual. syst. score
21	(Turner et al., 2010), The U.S.	n = 4053 children, adolescents and caregivers Child age range 2–17, 50,7 % males CSS	1&2b (LT)	TSCC & TSCYC	Trauma symptoms: $\beta = .57^{**}$	94
22	(Turner et al., 2016), The U.S.	n = 2,312 adolescents Age range 10–17, 51,7 % males CSS	3 (PY)	TSCC	Trauma symptom scores: .93 ^{***} (mean, standardized) Violent delinquent behaviour: 47,5 % ^{***} (proportion)	98

Note: * $p < .05$. ** $p < .01$. *** $p < .001$. NS: Non-significant. PV: Polyvictimization. CSS: Cross-sectional study. NA: Not available. PY: Past year. LT: Lifetime.

PV definition 1: ‘The cumulative approach’: PV as a continuous sum variable of either endorsed victimization items in the JVQ or a sum of aggregated victimization categories/screeners. PV definition 2: ‘The categorical approaches’: PV as a categorical variable with specific cut-off values to define PV status e.g. in relation to the sample mean of victimizations, e.g. four or more victimizations (2a) or PV defined by a 90th percentile level in relation to the highest number of victimizations i.e. the top ten percent endorsing the highest number of victimizations (2b). Definition 3: ‘The empirical approach’: PV identified by means of person-oriented statistical techniques such as cluster analysis, latent class or profile analysis. Identification of distinct victimization subgroups, clusters or classes displaying different constellations and levels of victimization exposures. Definition 4: Other approaches: PV as a five-predictor model/JVQ subscale model or PV as a latent construct formed by the items from the JVQ. TSCC: The Trauma Symptom Checklist for children. TSCC-A: Alternate version of the TSCC. TSCYC: The Trauma Symptom Checklist for young children (Briere, 1996), (Briere, 2005). YSR: Youth Self Report (Achenbach & Rescorla, 2001). SDQ: The Strengths and Difficulties Questionnaire (Goodman, 1997). MHI: The Mental Health Inventory (Veit & Ware, 1983). BDI-II: Beck Depression Inventory-II (Beck, Steer, & Brown, 1996), (Leung, 2001). UCLA PTSD Index: UCLA PTSD Reaction Index for DSM-5 (Rodriguez, Steinberg, & Pynoos, 1999). CES-DC: The Center for Epidemiological Studies Depression Scale (Radloff, 1977), (Li, Chung, & Ho, 2010). BPI: Behaviour Problems Index (Peterson & Zill, 1986). BITSEA: Brief Infant-Toddler Social and Emotional Assessment (Briggs-Gowan & Carter, 2002).

assessment of quantitative studies by a checklist of 14 fixed-choice items. The questions are rated using a scale including ‘yes’ (score of 2), ‘partial’ (score of 1), ‘no’ (score 0), and ‘non-applicable’. Since this review focused on childhood victimization and associated psychopathology, the studies of concern include highly vulnerable populations and an additional item concerning ethical evaluation or approval of the study was consequently added. The final adapted checklist comprised 12 items. A summary score was calculated as a fraction of the total score (maximum 24, 100 %). Included studies were assessed and scored independently by two reviewers. The quality assessment inter-rater correlation coefficient was 0.91 (95 % CI: .78–.96) which indicates almost perfect inter-rater reliability (Fleiss, 1971). By QualSyst standards, study scores are categorized in the following way: 59 % or below (low-quality); 60 %–64 % (low-medium quality); 65 %–69 % (medium quality); 70–74 % (medium-high quality); ≥ 75 % (high-quality) (Kmet et al., 2004). To differentiate within the group of high-quality studies, an additional distinction was constructed for the present review: 75 %–94 % (high quality), and 95 %–100 % (exceptionally high quality). The studies with the highest quality scores were given precedence in the result and discussion sections. The revised checklist and the study scores can be found in the supplementary material.

2.8. Risk of bias across studies

To increase reliability of findings, only studies applying the JVQ to assess victimization were included in this review. Despite this, clinical, methodological, and statistical heterogeneity across studies meant it was not feasible to conduct a quantitative analysis of the data or a meta-analysis. Results are instead reviewed, presented, and discussed narratively, based on different forms of psychopathology.

3. Results

3.1. Studies included in the review

A total of 22 studies across 62,586 participants ($R = 77 - 18,341$) were included in the present study. The child sex ratios were reported across 21 studies (except study 9, for study numbers see Table 1). All but one of the samples included both male and female participants, except study 4 which included only males. Nine studies included samples of both children and adolescents (age range 0–17 years) (study 3,4,6,9,10,14,20–22), ten studies included only adolescents (age range 12–17 years) (study 1,2,5,7,12,13,15,17–19), whereas the remaining two studies included child samples only (age range 0–11 years) (study 8,16). One study did not report an age range but presented the sample mean age and standard deviation (SD) (study 11).

3.2. Study design and setting

All of the 22 studies employed a cross-sectional study design. Seven studies were conducted using data from U.S. participants (study 9–11,14,20–22), six from Spain (study 1,2,15,17–19), four from Canada (study 3,7,8,16), two from China (study 5,6), and the remaining three studies from Pakistan (study 4), the United Kingdom (study 12), and Switzerland (study 13). Thus, according to The World Bank definition (2019), 19 studies were based in high-income countries, three studies were based in upper-middle-income (China) or lower-middle-income (Pakistan) countries, and none of the included studies were based on samples from low-income countries.

Eight studies included community or convenience samples (study 3,5,6–8,12,15,16). Seven studies included nationally representative samples (study 9,10,14,20,21), or a subsample of a nationally representative sample (study 22), or a near-representative sample (study 13). Seven studies included samples that could be characterized as ‘high-risk’ or ‘at-risk’ for victimization such as young offenders, outpatients in mental health services, street children, children in residential care facilities, children in welfare or juvenile justice systems, and children recruited for interventions on exposure to violence (study 1,2,4,11,17–19).

3.3. Quality assessment

Thirteen studies received a particularly high-quality rating with scores ranging from 96 to 100 ($M = 97.85$, $SD = 1.91$). Eight studies received a high-quality rating with scores ranging from 88 to 94 (Mean = 92.75, $SD = 2.12$). One study received a score of 65 indicating medium quality. The total quality ratings are presented in Table 1.

3.4. Victimization measurement using the JVQ

In the studies included in this review, different versions and adaptations of the JVQ spanning 14–51 victimization items were used. Different translated versions of the JVQ were used across the studies including Urdu, Chinese, French, Spanish, Catalan, German, and Italian versions (study 1,2, 4–8, 13,17–19).

3.5. Approaches to polyvictimization

A ‘categorical approach’ to the definition of polyvictimization was used in 11 studies (study 3,5,6,9,11–14,17–19), an ‘empirical approach’ was used in four studies (study 1,2,16,22), and a ‘cumulative approach’ was used in three studies (study 7,8,20). The remaining two studies applied both cumulative and categorical approaches to polyvictimization (study 10, 21) or investigated polyvictimization by the means of a five predictor/JVQ subscale model (study 4) or as a latent construct formed by the items from the JVQ (study 15).

Some studies further categorized polyvictimization into different levels of multiple victimization exposure, for example, ‘low’ and ‘high’ polyvictimization (study 10,17,19). Other studies established different numerical thresholds to define polyvictimization status for different age groups in their respective samples (study 3,9,14,20). The different time frames for measuring polyvictimization (past year, $n = 8$, lifetime, $n = 12$ or both, $n = 2$), the different versions of the JVQ with varying number of items (14–51), and the diverse operationalizations of polyvictimization, produced multiple numerical thresholds for and conceptualizations of polyvictimization status across studies.

3.6. Instruments for measuring psychopathology outcomes

Table 1 shows that various instruments were employed across studies to assess indicators of child and adolescent psychopathology. The majority of the studies (12) used the Trauma Symptom Checklist for Children (TSCC) (Briere, 1996) and/or the Trauma Symptom Checklist for Young Children (TSCYC) (Briere, 2005) (study 3,7–12, 14,16, 20–22) followed by The Youth Self-Report (YSR) (Achenbach & Rescorla, 2001), which was employed in six studies (study 1,2,15,17–19).

3.7. Polyvictimization and associations with psychopathology outcomes

All but one study (study 16) reported a significant positive association between polyvictimization and at least one indicator of child or adolescent psychopathology. Across the literature, polyvictimization was found to be associated with both specific types of psychopathology and with more general psychopathology constructs. Polyvictimization was shown to be positively associated with symptoms of depression across eight studies (study 3,5–8,10,12,14). Anger/aggression was another commonly reported psychopathology outcome associated with childhood polyvictimization across the included literature, with a positive association between polyvictimization and anger/aggression reported in six studies (study 3,7,8,10,12,14). Four studies found that polyvictimization was positively associated with anxiety (study 3,8,10,14). The associations between polyvictimization and depression, anger/aggression and anxiety were identified in normative child and/or adolescent samples (i.e. community, convenience, and nationally representative samples). Polyvictimization was also found to be positively associated with PTSD/PTS in five studies. These associations were predominantly identified in normative child and youth populations (study 3,5,7,12) but also in one high-risk sample (study 11). In addition, polyvictimization was found to be positively associated with indicators of psychopathology including emotional symptoms, conduct problems, hyperactivity, and peer problems in a normative adolescent sample (study 13) and with rule-breaking

behaviour and thought problems among high-risk adolescents (study 17). Polyvictimization was also positively associated with suicidality among high-risk adolescents (study 19) and with dissociation and violent behaviours in normative samples of children and adolescents (study 12,22, respectively).

A group of studies further reported that polyvictimization was positively associated with combined categories of psychopathology such as anxiety/depression/loss of behavioural/emotional control among high-risk children (study 4), and anxiety/depression (study 17) among high-risk adolescents. Polyvictimization was also found to be positively associated with more general psychopathology constructs such as internalizing symptoms (study 2,15,18) and externalizing symptomatology (study 1,2,15,18), predominantly in studies concerning high-risk adolescents. Finally, various studies reported a positive association between polyvictimization and more general classifications of psychological distress or psychosocial impairment covering various dimensions of psychopathology (study 1,2,9,13,20–22) and included both high-risk and normative samples of children and adolescents.

Most of the included studies used multivariate statistics to determine the association(s) between polyvictimization and indicators of psychopathology. Two of the 22 studies used bivariate analysis (study 5,22) and one study applied both bivariate and multivariate techniques (study 10). Overall, the identified associations were moderate to strong in magnitude across the different types of child and adolescent populations. Among normative child and adolescent samples for example, polyvictimization was substantially associated in a dose-response manner with depression ($\beta = .38$) and anxiety ($\beta = .22$) symptoms among Canadian children (study 8). Similarly, a high distress/overall trauma symptom score (mean standardized score .93) was identified for children and adolescents exposed to polyvictimization from the U.S. (study 22). Polyvictimization was also strongly associated with anger/aggression symptomatology in both children ($\beta = .34$) and adolescents ($\beta = .42$) in the U.S. (study 10), as well strongly associated with externalizing symptomatology among Spanish adolescents ($\beta = .64$) (study 15). Among the high-risk populations, polyvictimization was, for example, strongly associated with anxiety/depression symptoms among Spanish youth in residential care (OR = 4.6) (study 17). Furthermore, polyvictimization was substantially associated with externalizing symptomatology among Spanish adolescent offenders (OR = 3.1) (study 1) and with general psychosocial impairment among Spanish outpatient youth (OR = 8.5) (study 2).

4. Discussion

This review was the first to investigate the associations between childhood psychopathology and polyvictimization, as measured by the JVQ, among children and youth across various geographical and economic contexts and spanning both normative and high-risk child and adolescent samples. The results showed that despite every study employing the same measure for victimizations (JVQ), polyvictimization was operationalized in multiple and diverse ways across studies. This poses a significant challenge to efforts attempting to synthesize and compare results across studies. Recent research has shown how the use of different approaches and definitions of polyvictimization may lead to differences in terms of which children are identified as polyvictims (Segura, Pereda, & Guilera, 2018) and consequently targets of interventions and support. Extant research has therefore pointed to the need for clinical and operational guidelines on how to define polyvictimization (Grasso, Dierkhising, Branson, Ford, & Lee, 2016; Segura et al., 2018).

Despite the inconsistencies in the operational definition of polyvictimization, 21 of the 22 studies in this review identified a positive association between polyvictimization and at least one indicator of child and adolescent psychopathology. The associations between polyvictimization and various indicators of adverse mental health were identified across diverse samples, varying time spans (i.e. past year and lifetime), different methodologies, and different analytical techniques suggesting that exposure to multiple victimization in childhood is an encompassing problem affecting children negatively across national settings and child life circumstances.

According to the extant psychopathology literature, the internalizing and externalizing problem spectra represents one of the most widely agreed upon taxonomies in psychopathology research (Achenbach, Ivanova, Rescorla, Turner, & Althoff, 2016). Furthermore, high rates of comorbidity between internalizing and externalizing problems have been demonstrated across the literature (Achenbach, 1982; Chase & Eyberg, 2008; Willner, Gatzke-Kopp, & Bray, 2016). The psychopathology outcomes found to be associated with polyvictimization in this review can therefore be further regrouped into three, more general, dimensions of psychopathology. The first dimension includes inner-directed types of psychopathology, such as anxiety and depression, alone or in combination, and is conceptualized as over-controlled behaviours or internalizing problems (Mash & Dozois, 2003). The second general dimension of psychopathology includes more overt expressions such as anger, hyperactivity, and delinquent behaviours, and is conceptualized as under-controlled behaviours or externalizing problems (Levesque & Levesque, 2011; Tandon, Cardeli, & Luby, 2009). Finally, the third dimension includes both internalizing and externalizing problems (i.e. multiple forms of psychopathology or overall distress). The results of the current review indicate that polyvictimization is associated with various dimensions of mental health problems underlining how both inner-directed and outer-directed difficulties should be considered when planning interventions for polyvictimized individuals.

A number of studies further demonstrated that polyvictimization was a stronger predictor of psychopathology than individual (sub)types of victimization, and that controlling for polyvictimization substantially reduced - or eliminated - the association between individual types of victimization and psychopathology (Finkelhor, Ormrod, & Turner, 2007; Jackson-Hollis et al., 2017; Lätsch, Nett, & Hümbelin, 2017; Turner, Finkelhor, & Ormrod, 2010). Even though some individual types of victimizations such as sexual victimization (Cyr et al., 2017; Segura, Pereda, Guilera, & Abad, 2016; Suárez-Soto, Guilera, & Pereda, 2018), maltreatment (Cyr et al., 2017; Finkelhor et al., 2007a; Lätsch et al., 2017), assault (Cyr, Clément, & Chamberland, 2014, 2017), and witnessing victimization (Cyr et al., 2014, 2017; Finkelhor et al., 2007a) remained independent predictors of mental health outcomes across a range of studies, the predictive power of individual types of victimizations tended to strongly decrease when polyvictimization was accounted for. These findings accentuate the importance of a broad and comprehensive victimization assessment to obtain complete victimization

profiles of youths and to avoid overestimating the impact that a single type of victimization has on psychopathology outcomes.

Most studies identified a strong or moderate association between polyvictimization and psychopathology. Particularly strong associations were identified in studies of high-risk groups (Álvarez-Lister, Pereda, Abad, & Guilera, 2014; Álvarez-Lister, Pereda, & Guilera, 2016; Segura et al., 2016; Segura, Pereda, Guilera, & Álvarez-Lister, 2017), which is not surprising due to the clinical or welfare system contexts of these studies. These results corroborate the assumption that polyvictimization is strongly related to psychopathology among disadvantaged groups (Andrews et al., 2015; Ford, Wasser, & Connor, 2011), and underline the significance of accounting for the multiplicity issue of victimization experiences when studying mental health among vulnerable populations that are at higher risk of facing the dual burden of traumatic exposures and mental health issues. The strength of associations between polyvictimization and psychopathology outcomes among the high-risk risk groups in this review should however, be interpreted with caution since research suggests that strong associations in the forms of large OR may be overstated for groups with high initial risk (Davies, Crombie, & Tavakoli, 1998), such as children involved in justice or welfare systems.

All of the included studies in the present review were cross-sectional studies which hinders inferences about causality. Extant research implies that victimization and mental health symptomatology are complexly interrelated and that causality may be bidirectional; in addition to be a potential outcome of childhood victimization, the onset of psychopathology can increase a child's vulnerability and thus serve as a risk factor for additional victimizations and polyvictimization (Cuevas, Finkelhor, Ormrod, & Turner, 2009; Finkelhor, Ormrod, Turner, & Holt, 2009; Turner, Finkelhor, Hamby, & Henly, 2017).

The various instruments employed to assess psychopathology across studies resulted in heterogeneity in terms of outcomes. Child and adolescent depression symptoms were for example measured by the means of different instruments such as the TSCC, the BDI-II, and the CES-DC with varying number of items across scales and with some instruments comprising frequency based ratings (CED-DC) and others intensity/severity based ratings (BDI-II) which has shown to generate difference in results (Olino et al., 2013). Due to these differences, quantitative analysis or synthesis of the results on the psychopathology outcomes was not feasible. Future research on specific psychopathology markers characterized by homogeneity in terms of measurement instruments (victimization and psychopathology) and polyvictimization criteria is warranted to fully establish the links between polyvictimization and specific domains of psychopathology.

Altogether, the results of the present review lend further support to the well-established link between multiple traumatic or victimizing exposures and adverse mental health outcomes (Grasso et al., 2013; Hughes et al., 2017; Liming & Grube, 2018). Findings are also in line with results from recent systematic reviews spanning both adult and child samples, documenting how individuals exposed to a high number and broad range of traumas, victimizations or adversities tend to display the worst mental health outcomes and highest symptomatology levels (Contractor, Caldas, Fletcher, Shea, & Armour, 2018; Debowska et al., 2017; Hughes et al., 2017). Since the results of this review and extant literature have documented strong links between polyvictimization and mental health problems in both childhood and adulthood, the polyvictimization issue warrants continuous attention of scholars, policymakers and professional practitioners working within the field of child abuse and neglect.

5. Future research directions

5.1. Understanding polyvictimization as a multifaceted phenomenon

Most of the studies in this review applied a 'categorical approach' to the definition of polyvictimization, while a smaller group of studies applied the 'cumulative' and 'empirical' approaches to defining polyvictimization. Recent research has argued that polyvictimization should not be perceived as a unitary concept, nor be reduced to a simple count of victimizations (Adams et al., 2016), given that distinct patterns (or latent profiles) of victimization are identifiable in trauma-exposed cohorts (Ford et al., 2013). These distinct victimization patterns may carry differential risk for mental health outcomes with the potential to better inform treatment and intervention planning (Contractor et al., 2018; Ford et al., 2013). Future research on the association between polyvictimization and psychopathology may benefit from considering both quantitative and qualitative differences in polyvictimization to obtain a more sophisticated understanding of how it relates to mental health problems. Person-centred statistical techniques such as latent class or latent profile analysis are particularly useful for studying victimization co-occurrence (Debowska et al., 2017; Ford et al., 2013; Rivera, Fincham, & Bray, 2018).

5.2. Investigating polyvictimization through developmental-oriented lenses

A range of studies in this review highlighted the importance of age and developmental stage when investigating and defining polyvictimization among children and youth (Babchishin & Romano, 2014; Finkelhor, Shattuck, Turner, Ormrod, & Hamby, 2011; Finkelhor et al., 2007a; Lätsch et al., 2017; Segura et al., 2016). Since older children engage in more life domains and have had more time to accumulate victimization exposures relative to younger children, samples could be distinguished based on developmental stage or children and adolescents with the identification of distinct numerical thresholds for different age groups (Turner et al., 2010). This is consistent with existing child maltreatment and victimization literature highlighting the importance of a developmentally sensitive approach to the investigation of childhood harms (Dierkhsing, Ford, Branson, Grasso, & Lee, 2019; Rivera et al., 2018), since some types of victimizations are more prevalent within certain developmental stages (Finkelhor, 2008; Hamby & Grych, 2013).

5.3. Accounting for location and perpetrator information in the investigation of polyvictimization and psychopathology

Several of the included studies emphasized how information on victimization location and perpetrator characteristics represent important future areas of concern when studying child victimization and polyvictimization since these factors can moderate the association between victimization exposure and mental health status (Hickman et al., 2013; Jackson-Hollis, Joseph, & Browne, 2017; Segura et al., 2016; Turner, Shattuck, Finkelhor, & Hamby, 2016). Previous research indicates that childhood betrayal trauma by a caregiver, or another trusted person, is strongly associated with mental health difficulties and interpersonal problems (Cloitre, Cohen, & Scarvalone, 2002; Gamache Martin, Van Ryzin, & Dishion, 2016; Goldsmith, Freyd, & DePrince, 2012). Individuals who suffer multiple interpersonal traumas committed by significant others, especially if occurring across different life contexts, are at particularly high risk for chronic mental health problems (Finkelhor, Turner et al., 2011). It will be important that future research evaluates if these context-specific factors moderate the association between polyvictimization and psychopathology among youths, as such information could inform the development of clinical interventions to mitigate risk among those vulnerable to the worst mental health outcomes.

6. Clinical importance and significance

Identifying and understanding the impact of polyvictimization on adverse mental health is important in order to meet the specific treatment needs of multiply-victimised children. Furthermore, the phenomenon of polyvictimization has practical implications since it challenges existing approaches to prevention and intervention efforts which are often arranged in relation to distinct types of victimizations and thereby siloed in their approach (Hamby & Grych, 2013; Lätsch et al., 2017). Assessment procedures not accounting for and addressing polyvictimization may overemphasize the impact that individual types of victimization have on psychopathology, and thus potentially fail to identify those children most at risk.

7. Limitations

This study has several limitations. First, all studies in this review were cross-sectional in nature which prevents any inferences about the causal role of polyvictimization in the development of psychopathology. Longitudinal research employing the JVQ exists but was excluded in this review because these samples did not fit the age limits (0–17) or other criteria (Finkelhor et al., 2007b; Turner, Finkelhor, Shattuck, & Hamby, 2012; Turner, Shattuck, Finkelhor, & Hamby, 2015). Second, only peer-reviewed articles in English and Scandinavian languages were included in the present review which may result in publication bias and exclusion of otherwise relevant sources of information. Third, most studies presented multiple regression models with several predictors and subsequently outlined the associations between polyvictimization and psychopathology in the presence of other variables. Even though some risk factors such as age and sex were included across various studies, studies also varied in terms of included predictor variables which impacts the results and hinders direct comparability between study results. Fourth, the global scope of this review was limited somewhat by virtue of the fact that most studies that met our inclusion criteria came from North American and European countries. The definition of child maltreatment varies both within and between cultures and research settings (Hansen & Olf, 2018; Rumble et al., 2018), and additional research from non-Western samples taking into account the context-specific nature of polyvictimization is important. Finally, multiple childhood victimization has been investigated using frameworks and instruments other than ‘polyvictimization’ and the JVQ (Ford, Elhai, Connor, & Frueh, 2010, 2013). Conceptual frameworks such as ‘polytraumatization’, ‘cumulative trauma’ and ‘adverse childhood experiences’ also address the multiplicity aspect of exposure to childhood mistreatment and the impact of multiple traumatic events on child and adolescent mental health (Adams et al., 2016; Hamby & Grych, 2013; Hodges et al., 2013). These perspectives represent important sources of evidence on the relationship between early life maltreatment and psychopathology.

8. Conclusion

The present review demonstrates that child and adolescent interpersonal polyvictimization, irrespective of how the construct is defined, is positively associated with numerous forms of psychopathology. These findings were observed in multiple different child and youth samples and across various nations and cultures. There can be no doubt that polyvictimization is a substantial risk factor for mental health problems and requires the attention of mental health policymakers. This field of research would benefit from establishing a standardized approach to defining and measuring polyvictimization. The inconsistency in methods of defining and measuring polyvictimization severely undermines the scientific impact of this body of work. Finally, more well-designed, longitudinal studies with children and adolescents that take account of the context-specific nature of polyvictimization are required to better establish the causal relationships between polyvictimization and psychopathology, and to identify important social and psychological predictors of mental health outcomes so as to improve prevention and intervention efforts.

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Declaration of Competing Interest

All authors declare no conflict of interest.

Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:<https://doi.org/10.1016/j.chiabu.2020.104589>.

References

- Achenbach, T. M. (1982). Assessment and taxonomy of children's behavior disorders. In B. B. Lahey, & A. E. Kazdin (Eds.). *Advances in clinical child psychology* (pp. 1–38). Boston, MA: Springer US.
- Achenbach, T. M., & Rescorla, L. A. (2001). *Manual for the ASEBA school-age forms & profiles*. Burlington, VT: University of Vermont, Research Center for Children, Youth, & Families.
- Achenbach, T. M., Ivanova, M. Y., Rescorla, L. A., Turner, L. V., & Althoff, R. R. (2016). Internalizing/externalizing problems: Review and recommendations for clinical and research applications. *Journal of the American Academy of Child and Adolescent Psychiatry*, 55(8), 647–656. <https://doi.org/10.1016/j.jaac.2016.05.012>.
- Adams, Z. W., Moreland, A., Cohen, J. R., Lee, R. C., Hanson, R. F., Danielson, C. K., & Briggs, E. C. (2016). Polyvictimization: Latent profiles and mental health outcomes in a clinical sample of adolescents. *Psychology of Violence*, 6(1), 145–155. <https://doi.org/10.1037/a0039713>.
- Aho, N., Proczkowska-Björklund, M., & Svedin, C. G. (2016). Victimization, polyvictimization, and health in Swedish adolescents. *Adolescent Health, Medicine and Therapeutics*, 7, 89–99. <https://doi.org/10.2147/AHMT.S109587>.
- Álvarez-Lister, M. S., Pereda, N., Abad, J., & Guilera, G. (2014). Polyvictimization and its relationship to symptoms of psychopathology in a southern European sample of adolescent outpatients. *Child Abuse & Neglect*, 38(4), 747–756. <https://doi.org/10.1016/j.chiabu.2013.09.005>.
- Álvarez-Lister, M. S., Pereda, N., & Guilera, G. (2016). Psychopathological correlates of polyvictimization in young offenders. *Criminal Justice and Behavior*, 43(12), 1710–1725. <https://doi.org/10.1177/0093854816662678>.
- Anda, R. F., Felitti, V. J., Bremner, J. D., Walker, J. D., Whitfield, C., Perry, B. D., & Giles, W. H. (2006). The enduring effects of abuse and related adverse experiences in childhood: A convergence of evidence from neurobiology and epidemiology. *European Archives of Psychiatry and Clinical Neuroscience*, 256(3), 174–186. <https://doi.org/10.1007/s00406-005-0624-4>.
- Andrews, A. R., 3rd, Jobe-Shields, L., López, C. M., Metzger, I. W., de Arellano, M. A. R., Saunders, B., ... Kilpatrick, D. G. (2015). Polyvictimization, income, and ethnic differences in trauma-related mental health during adolescence. *Social Psychiatry and Psychiatric Epidemiology*, 50(8), 1223–1234. <https://doi.org/10.1007/s00127-015-1077-3>.
- Babchishin, L. K., & Romano, E. (2014). Evaluating the frequency, co-occurrence, and psychosocial correlates of childhood multiple victimization. *Canadian Journal of Community Mental Health*, 33(2), 47–65. <https://doi.org/10.7870/cjcmh-2014-015>.
- Bashir, Z., & Dasti, R. (2015). Poly-victimization and mental health of street children in Lahore city. *Journal of Mental Health (Abingdon, England)*, 24(5), 305–312. <https://doi.org/10.3109/09638237.2015.1057330>.
- Beck, A. T., Steer, R. A., & Brown, G. (1996). *Beck depression inventory–II [database record]*. APA PsycTests.
- Briere, J. (1996). *Trauma symptoms checklist for children (TSCC): Professional manual*. Odessa, FL: Psychological Assessment Resources.
- Briere, J. (2005). *Trauma symptom checklist for young children (TSCYC): Professional manual*. Odessa, FL: Psychological Assessment Resources, Inc.
- Briggs-Gowan, M. J., & Carter, A. S. (2002). *Brief infant toddler social and emotional assessment (BITSEA) manual*. Version 2.0 New Haven, CT: Yale University.
- Chan, K. L. (2013). Victimization and poly-victimization among school-aged Chinese adolescents: Prevalence and associations with health. *Preventive Medicine*, 56(3–4), 207–210. <https://doi.org/10.1016/j.ypmed.2012.12.018>.
- Chase, R. M., & Eyberg, S. M. (2008). Clinical presentation and treatment outcome for children with comorbid externalizing and internalizing symptoms. *Journal of Anxiety Disorders*, 22(2), 273–282. <https://doi.org/10.1016/j.janxdis.2007.03.006>.
- Chen, M., & Chan, K. L. (2016). Parental absence, child victimization, and psychological well-being in rural China. *Child Abuse & Neglect*, 59, 45–54. <https://doi.org/10.1016/j.chiabu.2016.07.009>.
- Cloitre, M., Cohen, L. R., & Scarvalone, P. (2002). Understanding revictimization among childhood sexual abuse survivors: An interpersonal schema approach. *Journal of Cognitive Psychotherapy*, 16(1), 91.
- Cloitre, M., Stolbach, B. C., Herman, J. L., van der Kolk, B., Pynoos, R., Wang, J., ... Petkova, E. (2009). A developmental approach to complex PTSD: Childhood and adult cumulative trauma as predictors of symptom complexity. *Journal of Traumatic Stress*, 22(5), 399–408. <https://doi.org/10.1002/jts.20444>.
- Contractor, A. A., Caldas, S., Fletcher, S., Shea, M. T., & Armour, C. (2018). Empirically derived lifespan polytraumatization typologies: A systematic review. *Journal of Clinical Psychology*, 74(7), 1137–1159. <https://doi.org/10.1002/jclp.22586>.
- Cuevas, C. A., Finkelhor, D., Ormrod, R., & Turner, H. (2009). Psychiatric diagnosis as a risk marker for victimization in a national sample of children. *Journal of Interpersonal Violence*, 24(4), 636–652. <https://doi.org/10.1177/0886260508317197>.
- Cyr, K., Chamberland, C., Clément, M.-È., Wemmers, J.-A., Collin-Vézina, D., Lessard, G., ... Damant, D. (2017). The impact of lifetime victimization and poly-victimization on adolescents in Québec: Mental health symptoms and gender differences. *Violence and Victims*, 32(1), 3–21. <https://doi.org/10.1891/0886-6708.VV-D-14-00020>.
- Cyr, K., Clément, M.-È., & Chamberland, C. (2014). Lifetime prevalence of multiple victimizations and its impact on children's mental health. *Journal of Interpersonal Violence*, 29(4), 616–634. <https://doi.org/10.1177/0886260513505220>.
- Cyr, K., Chamberland, C., Lessard, G., Clément, M.-È., Wemmers, J.-A., Collin-Vézina, D., & Damant, D. (2012). Polyvictimization in a child welfare sample of children and youths. *Psychology of Violence*, 2(4), 385–400. <https://doi.org/10.1037/a0028040>.
- Davies, H. T., Crombie, I. K., & Tavakoli, M. (1998). When can odds ratios mislead? *BMJ (Clinical Research Ed)*, 316(7136), 989–991. <https://doi.org/10.1136/bmj.316.7136.989>.
- Debowska, & Boduszek (2017). Child abuse and neglect profiles and their psychosocial consequences in a large sample of incarcerated males. *Child Abuse & Neglect*, 65, 266–277. <https://doi.org/10.1016/j.chiabu.2016.12.003>.
- Debowska, A., Willmott, D., Boduszek, D., & Jones, A. D. (2017). What do we know about child abuse and neglect patterns of co-occurrence? A systematic review of profiling studies and recommendations for future research. *Child Abuse & Neglect*, 70, 100–111. <https://doi.org/10.1016/j.chiabu.2017.06.014>.
- DeHart, D. D., & Moran, R. (2015). Poly-victimization among girls in the justice system. *Violence Against Women*, 21(3), 291–312. <https://doi.org/10.1177/1077801214568355>.
- Dierkhising, C. B., Ford, J. D., Branson, C., Grasso, D. J., & Lee, R. (2019). Developmental timing of polyvictimization: Continuity, change, and association with adverse outcomes in adolescence. *Child Abuse & Neglect*, 87, 40–50. <https://doi.org/10.1016/j.chiabu.2018.07.022>.
- Finkelhor, D. (2008). *Childhood victimization: Violence, crime, and abuse in the lives of young people*. New York, NY, US: Oxford University Press.
- Finkelhor, D., & Browne, A. (1985). The traumatic impact of child sexual abuse: A conceptualization. *The American Journal of Orthopsychiatry*, 55(4), 530–541. <https://doi.org/10.1111/j.1939-0025.1985.tb02703.x>.

- Finkelhor, D., Ji, K., Mikton, C., & Dunne, M. (2013). Explaining lower rates of sexual abuse in China. *Child Abuse & Neglect*, 37(10), 852–860. <https://doi.org/10.1016/j.chiabu.2013.07.006>.
- Finkelhor, D., Ormrod, R. K., Turner, H. A., & Hamby, S. L. (2005). Measuring poly-victimization using the juvenile victimization questionnaire. *Child Abuse & Neglect*, 29(11), 1297–1312. <https://doi.org/10.1016/j.chiabu.2005.06.005>.
- Finkelhor, D., Ormrod, R. K., & Turner, H. A. (2007a). Poly-victimization: A neglected component in child victimization. *Child Abuse & Neglect*, 31(1), 7–26. <https://doi.org/10.1016/j.chiabu.2006.06.008>.
- Finkelhor, D., Ormrod, R. K., & Turner, H. A. (2007b). Polyvictimization and trauma in a national longitudinal cohort. *Development and Psychopathology*, 19(1), 149–166. <https://doi.org/10.1017/S095457940700083>.
- Finkelhor, D., Ormrod, R., Turner, H., & Holt, M. (2009). Pathways to poly-victimization. *Child Maltreatment*, 14(4), 316–329. <https://doi.org/10.1177/1077559509347012>.
- Finkelhor, D., Shattuck, A., Turner, H. A., Ormrod, R., & Hamby, S. L. (2011). Polyvictimization in developmental context. *Journal of Child & Adolescent Trauma*, 4(4), 291–300. <https://doi.org/10.1080/19361521.2011.610432>.
- Finkelhor, Turner, H. A., Hamby, S. L., & Ormrod, R. K. (2011). *Polyvictimization: Children's exposure to multiple types of violence, crime, and abuse*. Washington, DC: Office of Juvenile Justice and Delinquency Prevention. U.S. Department of Justice.
- Fliss, J. L. (1971). Measuring nominal scale agreement among many raters. *Psychological Bulletin*, 76(5), 378–382. <https://doi.org/10.1037/h0031619>.
- Ford, J. D., & Delker, B. C. (2018). Polyvictimization in childhood and its adverse impacts across the lifespan: Introduction to the special issue. *Journal of Trauma & Dissociation*, 19(3), 275–288. <https://doi.org/10.1080/15299732.2018.1440479>.
- Ford, J. D., Elhai, J. D., Connor, D. F., & Frueh, B. C. (2010). Poly-victimization and risk of posttraumatic, depressive, and substance use disorders and involvement in delinquency in a national sample of adolescents. *The Journal Of Adolescent Health*, 46(6), 545–552. <https://doi.org/10.1016/j.jadohealth.2009.11.212>.
- Ford, J. D., Grasso, D. J., Hawke, J., & Chapman, J. F. (2013). Poly-victimization among juvenile justice-involved youths. *Child Abuse & Neglect*, 37(10), 788–800. <https://doi.org/10.1016/j.chiabu.2013.01.005>.
- Ford, J. D., Wasser, T., & Connor, D. F. (2011). Identifying and determining the symptom severity associated with polyvictimization among psychiatrically impaired children in the outpatient setting. *Child Maltreatment*, 16(3), 216–226. <https://doi.org/10.1177/1077559511406109>.
- Gamache Martin, C., Van Ryzin, M. J., & Dishion, T. J. (2016). Profiles of childhood trauma: Betrayal, frequency, and psychological distress in late adolescence. *Psychological Trauma: Theory, Research, Practice and Policy*, 8(2), 206–213. <https://doi.org/10.1037/tra0000095>.
- Goldsmith, R. E., Freyd, J. J., & DePrince, A. P. (2012). Betrayal trauma: Associations with psychological and physical symptoms in young adults. *Journal of Interpersonal Violence*, 27(3), 547–567. <https://doi.org/10.1177/0886260511421672>.
- Goodman, R. (1997). The strengths and difficulties questionnaire: A research note. *Journal of Child Psychology and Psychiatry*, 38, 581–586.
- Grasso, D., Greene, C., & Ford, J. D. (2013). Cumulative trauma in childhood. Treating complex traumatic stress disorders in children and adolescents: An evidence based guide (2013) In J. D. Ford, & C. A. Courtois (Eds.). *Treating complex traumatic stress disorders in children and adolescents: Scientific foundations and therapeutic models* (pp. 79–99). Guilford Press.
- Grasso, D. J., Dierkhising, C. B., Branson, C. E., Ford, J. D., & Lee, R. (2016). Developmental patterns of adverse childhood experiences and current symptoms and impairment in youth referred for trauma-specific services. *Journal of Abnormal Child Psychology*, 44(5), 871–886. <https://doi.org/10.1007/s10802-015-0086-8>.
- Gren-Landell, M., Aho, N., Andersson, G., & Svedin, C. G. (2011). Social anxiety disorder and victimization in a community sample of adolescents. *Journal of Adolescence*, 34(3), 569–577. <https://doi.org/10.1016/j.adolescence.2010.03.007>.
- Gustafsson, P. E., Nilsson, D., & Svedin, C. G. (2009). Polytraumatization and psychological symptoms in children and adolescents. *European Child & Adolescent Psychiatry*, 18(5), 274–283. <https://doi.org/10.1007/s00787-008-0728-2>.
- Hamby, S., & Grych, J. (2013). *Springer briefs in sociology. The web of violence: Exploring connections among different forms of interpersonal violence and abuse*. Springer Science + Business Media <https://doi.org/10.1007/978-94-007-5596-3>.
- Hamby, S. L., Finkelhor, D., Ormrod, R., & Turner, H. (2005). *The juvenile victimization questionnaire (JVQ): Administration and scoring manual*. Durham, NH: Crimes Against Children Research Center.
- Hansen, M., & Olf, M. (2018). Child maltreatment across the lifespan. *European Journal of Psychotraumatology*, 8(Suppl 7), <https://doi.org/10.1080/20008198.2018.1483165>.
- Hellström, L. (2019). A systematic review of polyvictimization among children with attention deficit hyperactivity or autism spectrum disorder. *International Journal of Environmental Research and Public Health*, 16, 2280. <https://doi.org/10.3390/ijerph16132280>.
- Hickman, L. J., Jaycox, L. H., Setodji, C. M., Kofner, A., Schultz, D., Barnes-Proby, D., ... Harris, R. (2013). How much does "how much" matter? Assessing the relationship between children's lifetime exposure to violence and trauma symptoms, behavior problems, and parenting stress. *Journal of Interpersonal Violence*, 28(6), 1338–1362. <https://doi.org/10.1177/0886260512468239>.
- Hodges, M., Godbout, N., Briere, J., Lanktree, C., Gilbert, A., & Kletzka, N. T. (2013). Cumulative trauma and symptom complexity in children: A path analysis. *Child Abuse & Neglect*, 37(11), 891–898. <https://doi.org/10.1016/j.chiabu.2013.04.001>.
- Hughes, K., Bellis, M. A., Hardcastle, K. A., Sethi, D., Butchart, A., Mikton, C., & Dunne, M. P. (2017). The effect of multiple adverse childhood experiences on health: a systematic review and meta-analysis. *The Lancet Public Health*, 2(8), e356–e366. [https://doi.org/10.1016/s2468-2667\(17\)30118-4](https://doi.org/10.1016/s2468-2667(17)30118-4).
- Jackson-Hollis, Joseph, & Browne (2017). The impact of extrafamilial victimization and poly-victimization on the psychological well-being of English young people. *Child Abuse & Neglect*, 67, 349–361. <https://doi.org/10.1016/j.chiabu.2017.03.004>.
- Kmet, L. M., Lee, R. C., & Cook, L. S. (2004). *Standard quality assessment criteria for evaluating primary research papers from a variety of fields*. Retrieved from: <http://www.biomedcentral.com/content/supplementary/1471-2393-14-52-s2.pdf>.
- Kretschmar, J., Tossone, K., Butcher, F., & Flannery, D. (2016). Patterns of poly-victimization in a sample of At-Risk youth. *Journal of Child & Adolescent Trauma*, 10. <https://doi.org/10.1007/s40653-016-0109-9>.
- Lätsch, D. C., Nett, J. C., & Hübelin, O. (2017). Poly-victimization and its relationship with emotional and social adjustment in adolescence: Evidence from a national survey in Switzerland. *Psychology of Violence*, 7(1), 1–11. <https://doi.org/10.1037/a0039993>.
- Le, M. T. H., Holton, S., Romero, L., & Fisher, J. (2016). Polyvictimization among children and adolescents in low- and lower-middle-income countries. *Trauma, Violence & Abuse*, 0(0), <https://doi.org/10.1177/1524838016659489> 1524838016659489.
- Leung, R. K. W. (2001). *A validation of the traditional Chinese (Hong Kong) versions of the Beck Anxiety Inventory (BAI) and the Beck Depression Inventory-II (BDI-II)*. Hong Kong, China: University of Hong Kong.
- Levesque, R. J. R. (2011). Externalizing and internalizing symptoms. In R. J. R. Levesque (Ed.). *Encyclopedia of adolescence* (pp. 903–905). New York, NY: Springer New York.
- Li, H. C., Chung, O. K., & Ho, K. Y. (2010). Center for epidemiologic studies depression scale for children: Psychometric testing of the Chinese version. *Journal of Advanced Nursing*, 66(11), 2582–2591. <https://doi.org/10.1111/j.1365-2648.2010.05440.x>.
- Liming, K. W., & Grube, W. A. (2018). Wellbeing outcomes for children exposed to multiple adverse experiences in early childhood: A systematic review. *Child and Adolescent Social Work Journal*, 35(4), 317–335.
- Mash, E. J., & Dozois, D. J. A. (2003). Child psychopathology: A developmental-systems perspective. In E. J. Mash, & R. A. Barkley (Eds.). *Child psychopathology* (pp. 3–71). Guilford Press.
- Mitchell, K. J., Hamby, S. L., Turner, H. A., Shattuck, A., & Jones, L. M. (2015). Weapon involvement in the victimization of children. *Pediatrics*, 136(1), 10–17. <https://doi.org/10.1542/peds.2014-3966>.
- Moher, D., Shamseer, L., Clarke, M., Ghersi, D., Liberati, A., Petticrew, M., & Stewart, L. A. (2015). Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. *Systematic Reviews*, 4(1), 1. <https://doi.org/10.1186/2046-4053-4-1>.
- Nieminen, P., Lehtiniemi, H., Vähäkangas, K., Huusko, A., & Rautio, A. (2013). Standardised regression coefficient as an effect size index in summarising findings in epidemiological studies. *Epidemiology, Biostatistics, and Public Health*, 10(4).
- Norman, R. E., Byambaa, M., De, R., Butchart, A., Scott, J., & Vos, T. (2012). The long-term health consequences of child physical abuse, emotional abuse, and neglect:

- A systematic review and meta-analysis. *PLoS Medicine*, 9(11), e1001349. <https://doi.org/10.1371/journal.pmed.1001349>.
- O'Donnell, M. L., Schaefer, I., Varker, T., Kartal, D., Forbes, D., Bryant, R. A. A., & Steel, Z. (2017). A systematic review of person-centered approaches to investigating patterns of trauma exposure. *Clinical Psychology Review*, 57, 208–225. <https://doi.org/10.1016/j.cpr.2017.08.009>.
- Olino, T. M., Yu, L., McMakin, D. L., Forbes, E. E., Seeley, J. R., Lewinsohn, P. M., ... Pilkonis, P. A. (2013). Comparisons across depression assessment instruments in adolescence and young adulthood: An item response theory study using two linking methods. *Journal of Abnormal Child Psychology*. <https://doi.org/10.1007/s10802-013-9756-6>.
- Pereda, N., Gallardo-Pujol, D., & Guilera, G. (2018). Good practices in the assessment of victimization: The Spanish adaptation of the Juvenile Victimization Questionnaire. *Psychology of Violence*, 8(1), 76–86. <https://doi.org/10.1037/vio0000075>.
- Peterson, J. L., & Zill, N. (1986). Marital disruption, parent-child relationships, and behavioral problems in children. *Journal of Marriage and the Family*, 48, 295–307.
- Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, 1(3), 385–401. <https://doi.org/10.1177/014662167700100306>.
- Rivera, P. M., Fincham, F. D., & Bray, B. C. (2018). Latent classes of maltreatment: A systematic review and critique. *Child Maltreatment*, 23(1), 3–24. <https://doi.org/10.1177/1077559517728125>.
- Robert-Mazaye, C., Clément, M.-È., Cyr, K., & Chamberland, C. (2017). Typological analysis of victimization profiles of young children. *Violence and Victims*, 32(2), 230–250. <https://doi.org/10.1891/0886-6708.VV-D-13-00150>.
- Rodriguez, N., Steinberg, A., & Pynoos, R. S. (1999). *UCLA PTSD index for DSM-IV instrument information: Child version, parent version, adolescent version*. California, CA: UCLA Trauma Psychiatry Service.
- Rumble, L., Ramly, A. A., Nuryana, M.m., & Dunne, M. P. (2018). The importance of contextual factors in carrying out childhood violence surveys: A case study from Indonesia. *Child Indicators Research*, 11(2), 405–421. <https://doi.org/10.1007/s12187-017-9457-8>.
- Segura, A., Pereda, N., Guilera, G., & Abad, J. (2016). Poly-victimization and psychopathology among Spanish adolescents in residential care. *Child Abuse & Neglect*, 55, 40–51. <https://doi.org/10.1016/j.chiabu.2016.03.009>.
- Segura, A., Pereda, N., Guilera, G., & Álvarez-Lister, S. (2017). Poly-victimization and mental health problems among adolescents in residential facilities in Spain. In A. V. Rus, S. R. Parris, & E. Stativa (Eds.). *Child maltreatment in residential care: History, research, and current practice* (pp. 149–168). Cham: Springer International Publishing.
- Segura, A., Pereda, N., & Guilera, G. (2018). Poly-victimization from different methodological approaches using the juvenile victimization questionnaire: Are we identifying the same victims? *Journal of Trauma & Dissociation*, 19(3), 289–3306. <https://doi.org/10.1080/15299732.2018.1441352>.
- Shevlin, M., Murphy, S., Elklit, A., Murphy, J., & Hyland, P. (2017). Typologies of child sexual abuse: An analysis of multiple abuse acts among a large sample of Danish treatment-seeking survivors of childhood sexual abuse. *Psychological Trauma: Theory, Research, Practice, and Policy*. <https://doi.org/10.1037/tra0000268> Advance online publication.
- Smit, K., Voogt, C., Hiemstra, M., Kleinjan, M., Otten, R., & Kuntsche, E. (2018). Development of alcohol expectancies and early alcohol use in children and adolescents: A systematic review. *Clinical Psychology Review*, 60, 136–146. <https://doi.org/10.1016/j.cpr.2018.02.002>.
- Suárez-Soto, E., Guilera, G., & Pereda, N. (2018). Victimization and suicidality among adolescents in child and youth-serving systems in Spain. *Children and Youth Services Review*, 91, 383–389. <https://doi.org/10.1016/j.childyouth.2018.06.037>.
- Tandon, M., Cardeli, E., & Luby, J. (2009). Internalizing disorders in early childhood: A review of depressive and anxiety disorders. *Child and Adolescent Psychiatric Clinics of North America*, 18(3), 593–610. <https://doi.org/10.1016/j.chc.2009.03.004>.
- Turner, Finkelhor, D., & Hamby, S. (2017). Victimization and adversity among children experiencing war-related parental absence or deployment in a nationally representative US sample. *Child Abuse & Neglect*, 67, 271–279. <https://doi.org/10.1016/j.chiabu.2017.02.039>.
- Turner, Shattuck, Finkelhor, & Hamby (2016). Polyvictimization and youth violence exposure across contexts. *The Journal of Adolescent Health*, 58(2), 208–214. <https://doi.org/10.1016/j.jadohealth.2015.09.021>.
- Turner, H. A., Finkelhor, D., & Ormrod, R. (2010). Poly-victimization in a national sample of children and youth. *American Journal of Preventive Medicine*, 38(3), 323–330. <https://doi.org/10.1016/j.amepre.2009.11.012>.
- Turner, H. A., Finkelhor, D., Shattuck, A., & Hamby, S. (2012). Recent victimization exposure and suicidal ideation in adolescents. *Archives of Pediatrics & Adolescent Medicine*, 166(12), 1149–1154.
- Turner, H. A., Shattuck, A., Finkelhor, D., & Hamby, S. (2015). Effects of poly-victimization on adolescent social support, self-concept, and psychological distress. *Journal of Interpersonal Violence*, 32(5), 755–780. <https://doi.org/10.1177/0886260515586376>.
- Veit, C. T., & Ware, J. E. (1983). The structure of psychological distress and well-being in general populations. *Journal of Consulting and Clinical Psychology*, 51(5), 730–742. <https://doi.org/10.1037/0022-006X.51.5.730>.
- Wegman, H. L., & Stetler, C. (2009). A meta-analytic review of the effects of childhood abuse on medical outcomes in adulthood. *Psychosomatic Medicine*, 71(8), 805–812. <https://doi.org/10.1097/PSY.0b013e3181bb2b46>.
- Willner, C. J., Gatzke-Kopp, L. M., & Bray, B. C. (2016). The dynamics of internalizing and externalizing comorbidity across the early school years. *Development and Psychopathology*, 28(4pt1), 1033–1052. <https://doi.org/10.1017/S0954579416000687>.
- Wolfe, D. A. (2018). Why polyvictimization matters. *Journal of Interpersonal Violence*, 33(5), 832–837. <https://doi.org/10.1177/0886260517752215>.
- World Bank (2019). *Data. World Bank country and lending groups*. Retrieved from: <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups>.
- World Health Organization (2017). *Violence info. Child maltreatment*. Retrieved from <https://apps.who.int/violence-info/child-maltreatment/>.