It should not hurt to be a child : prevalence of child maltreatment across the globe

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General introduction

The Prevalence of Child Maltreatment in the World

Given the devastating consequences of child maltreatment (e.g., Gilbert et al., 2009) it is important to know how often child maltreatment occurs. This is especially salient when seen in the light of the United Nation's Convention on the Rights of the Child (1989) in which the 194 ratifying countries state that they would will? take all possible measures in order to protect children from maltreatment.

To date, hundreds of studies with estimated prevalence rates of child maltreatment have been published. The reported prevalence rate estimations show a wide range, from nearly 0% (i.e., Raiha & Soma, 1997; Sibert et al., 2002) to more than 90% (i.e., Meston, Heiman, Trapnell, & Carlin, 1999; Milner, Robertson, & Rogers, 1990). Thus, it remains unclear how many children's lives are touched by maltreatment. Part of the variance in prevalence rates may reflect real differences in the occurrence of child maltreatment, for example due to differences between types of maltreatment, between genders, or due to variation in geographical origin of the samples. Part of the variance may also be due to design features such as how child maltreatment was measured or what kinds of samples were used. With the aim of unraveling the causes of variance in prevalence rates, we conducted a series of comprehensive meta-analyses on the prevalence of sexual, physical, and emotional abuse and of physical and emotional neglect. The results are presented in this thesis.

Types of Maltreatment

A general description of the different types of maltreatment can be found in the Report of the Consultation on Child Abuse Prevention (WHO, 1999; see Appendix A in Chapter 6). This report describes *sexual abuse* as the involvement of children in sexual activities that they do not fully understand, are unable to give informed consent to, for which they are not developmentally prepared, or that violate the standards of the society in which these children live. *Physical abuse* is defined as the infliction of potential or actual physical harm by a caregiver caused by interactions or lack of interactions that are reasonably in control of this caregiver. The description of *emotional abuse* includes the failure to provide a developmentally appropriate, supportive environment that allows the child to develop a stable and full range of emotional and social competencies, according to the child's personal potentials and in the context of the society in which the child grows up. Again, these acts should be reasonably within the control of the caregiver. *Neglect*, including physical, emotional, and educational neglect, is described as the failure, within the limits of the caregivers' resources, to provide for the development of the child in all domains including health, education, emotional development, nutrition, shelter, and safe living conditions.

Aims and Outline of the Thesis

Based on a total of 244 publications in which 577 prevalence rates were reported for the various types of maltreatment, we conducted a series of meta-analyses in which we calculated the global overall prevalence for sexual abuse (*Chapter 2*), physical abuse (*Chapter 3*), emotional abuse (*Chapter 4*), and physical and emotional neglect (*Chapter 5*), also investigating the influences of sample characteristics and design features. In *Chapter 6* the results of the series of meta-analyses are synthesized, allowing us to compare prevalence rates and to find out whether study characteristics exert similar or differential effects on the prevalence rates of different types of maltreatment. In Chapter 6 we also provide an overview of the body of maltreatment research, mapping the distribution of studies over time, types of maltreatment, and continents of origin of samples. Thus, in the next chapters we provide a unique overview of child maltreatment prevalence rates, and examine how many children across the world suffer from family violence or neglect.

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2

A global perspective on child sexual abuse: Meta-analysis of prevalence around the world

Marije Stoltenborgh, Marinus H. van IJzendoorn, Eveline M. Euser, & Marian J. Bakermans-Kranenburg (2011). *Child Maltreatment, 16(2),* 79-101.

Abstract

Our comprehensive meta-analysis combined prevalence figures of childhood sexual abuse (CSA) reported in 217 publications published between 1980 and 2008, including 331 independent samples with a total of 9,911,748 participants. The overall estimated CSA prevalence was 127/1000 in self-report studies and 4/1000 in informant studies. Self-reported CSA was more common among female (180/1000) than among male participants (76/1000). Lowest rates for both girls (113/1000) and boys (41/1000) were found in Asia, and highest rates were found for girls in Australia (215/1000) and for boys in Africa (193/1000). The results of our meta-analysis confirm that CSA is a global problem of considerable extent, but also show that methodological issues drastically influence the self-reported prevalence of CSA.

Introduction

There is no question about the negative effects of child sexual abuse (CSA) on children's psychological well-being and their development into adulthood. CSA is associated with a variety of problems in the short and the long term for both male and female victims (Beitchman, Zucker, Hood, Dacosta, & Akman, 1991; Beitchman et al., 1992; Browne & Finkelhor, 1986; Chapman, Whitfield, Felitti, Dube, Edwards, & Anda, 2004; Jumper, 1995; Kendall Tackett, Williams, & Finkelhor, 1993; Paolucci, Genuis, & Violato, 2001; Romano & De Luca, 2001; Spatz Widom, Czaja, & Dutton, 2008; Spatz Widom, DuMont, & Czaja, 2007). Although there seems to be some consensus on the global and persistent occurrence of CSA, controversy exists as to the overall prevalence of CSA with rates varying from 0.1% (Mackenzie, Blaney, Chivers, & Vincent, 1993) to 71.0% (Everill & Waller, 1995). We conducted a comprehensive meta-analysis of 217 publications on CSA published from 1982 to 2008, including 331 independent samples with a total of 9,911,748 participants, aiming to reveal the extent of the problem and to examine the influence of geographical and sample characteristics as well as procedural factors on the estimated prevalence of CSA.

Influence of Geographical and Sample Characteristics

Higher prevalences of CSA among girls than among boys are consistently found (Finkelhor & Baron, 1986; Finkelhor, 1994; Pereda, Guilera, Forns, & Gomez-Benito, 2009a; Pereda, Guilera, Forns, & Gomez-Benito, 2009b; Putnam, 2003; Rind, Tromovitch, & Bauserman, 1998). Besides gender, the geographical origin of the samples may influence prevalence. Although geographical area and culture are not isomorphic, differences in cultural beliefs and values might be the underlying mechanism affecting the estimated prevalence of CSA across countries and continents (Kenny & McEachern, 2000b). For example, in collectivist cultures like the Asian's the needs of a group tend be considered somewhat more important than those of an individual (Hofstede, 2001). This might result in ignoring the abuse experiences of an individual family member in order to protect the family from the shame associated with a reported case of abuse (Back et al., 2003). Also, cultural differences with regard to sexuality and to sexual restraint might influence the prevalence of sexual abuse and/or the willingness of sexual abuse victims to disclose their experiences (Kenny & McEachern, 2000b; Runyan, 1998). Examples are the taboo around girls losing their virginity before marriage and the taboo on boys' homosexual experiences that are often found in Hispanic cultures (Kenny & McEachern, 2000b).

Despite the fact that the body of international research about sexual abuse has widely expanded since Finkelhor (1994) called for more prevalence studies, not much research has compared prevalence rates among countries or continents. One meta-analysis reported that the highest prevalence rates were found in Africa and the lowest in Europe (Pereda et al., 2009b). A clue as to what to expect might

also come from studies comparing different ethnic groups in predominantly Caucasian countries like the USA. In this type of study, Asian minorities often show lower prevalence rates whereas Hispanic minorities often show higher prevalence rates compared to Caucasians (Kenny & McEachern, 2000b). Findings are not unequivocal, however, and it remains to be seen whether the pattern that is found for immigrant groups also emerges from comparisons among continents.

Procedural Factors

Sampling has been identified more than once as contributing to the diversity in CSA prevalence rates (Goldman & Padayachi, 2000; Wyatt & Peters, 1986). It has been argued that lower prevalence rates are found in convenience samples such as college student samples that are widely used for research on CSA, compared to random samples representing the wider community (Goldman & Padayachi, 2000).

A possible reason for the lower prevalence in college samples is that they may be a psychologically healthier group (Goldman & Padayachi, 2000). CSA is found to be related to adverse psychological adjustment (Jumper, 1995) and as such, better psychological health may be associated with lower CSA prevalence. College students may also be more aware of the study's aims and thus more liable to response biases.

Studies on CSA also differ in the method of data collection. Studies in which children or adults report on their own CSA experiences mainly use interviews and questionnaires. Whether or not differences between these two data collection methods are related to differences in prevalence rates of CSA remains unclear. Some reviews have noted that studies using interviews show higher prevalence rates than those using questionnaires (Pereda et al., 2009a; Wyatt & Peters, 1986) while others did not report such a difference (Goldman & Padayachi, 2000; Pereda et al., 2009b; Wyatt & Peters, 1986). It should be noted that both interviews and questionnaires are based on self-reported retrospective recollection (Fergusson & Mullen, 1999), with some uncertainty about whether the reported experiences actually took place (Goldman & Padayachi, 2000), although according to Koss (1993) it is widely accepted that the underreporting of rape is a greater threat to validity than fabrication. Reports of professionals, dossier or chart reviews, and informant observations of children, such as teachers observing their students in primary schools, do not rely on potentially biased memories of the respondents and document child abuse from the view of a trained observer or expert. A possible drawback of such informant studies is that CSA may be difficult to be detected by informants because CSA might be less 'visible' to outsiders than other types of abuse.

Incidence and Prevalence

For the difference between studies using self-report measures of CSA and informant studies the distinction between incidence and prevalence rates might be of interest. *Prevalence* refers to the number of individuals having experienced sexual abuse during childhood (Fallon et al., 2010; Peters, Wyatt, & Finkelhor, 1986). Life-time prevalences are generally assessed in self-report studies, since participants are usually asked to report on their experiences of abuse during their entire childhood and adolescence. *Incidence*, on the other hand, refers to the number of new cases of abuse reported or detected during a specific, restricted period of time (Fallon et al., 2010; Peters et al., 1986), often in the context of child protective services. Incidence studies may underestimate the occurrence of CSA (Leventhal, 1998) because only a small proportion of abuse cases may be reported to child protective services or other authorities (Goldman & Padayachi, 2000; Leventhal, 1998; Peters et al., 1986). Moreover, incidence studies capture fewer CSA experiences than prevalence studies because the time frame of incidence studies is more limited than the life-time reports in prevalence studies.

However, with regard to studies of CSA based on informants (in combination with child protective services files) the distinction between incidence and prevalence may not be as clear-cut as it seems to be. First, the informants might cover more cases than those that are officially reported to child protective services, certainly in countries without the legal obligation to report (Euser, Van IJzendoorn, Prinzie, & Bakermans-Kranenburg, 2010). Second, it is impossible to ascertain that the cases reported by informants in incidence studies are the very first sexual abuse experiences of a child and therefore incidence studies of CSA might better be regarded as studies of the current prevalence of CSA during a limited period of time (Van IJzendoorn et al., 2007). Based on the above discussion, prevalence rates from informant studies might underestimate the prevalence of CSA whereas rates from self-report studies might have a bias toward overestimation (Van IJzendoorn, 2007).

Defining CSA

In self-report studies, participants are sometimes asked questions about CSA without specification of experiences or behaviors that constitute CSA. The answers to these questions may be heavily influenced by the participants' subjective perceptions and definitions of CSA. An extreme example is 'Have you been sexually abused?' (e.g., Diaz, Simantov, & Rickert, 2002; Hibbard, Ingersoll, & Orr, 1999). This type of question does not include a clear operationalization of CSA as presented by the researcher. How CSA is defined and subsequently operationalized might have an impact on the reported prevalence. Of course, this is true for both self-report and informant studies. A definition of CSA includes several aspects. Defining the cut-off age for childhood is an important factor, as is the decision whether or not to define a minimum age difference between

victim and perpetrator to rule out sexual activity among peers. Moreover, the acts that constitute CSA are a crucial criterion that could influence the reported CSA prevalence. It is easy to imagine that including for example non-contact abuse such as sexual propositions and exhibitionism would yield higher prevalence rates than including contact abuse only. However, Pereda et al. (2009b) found no difference in combined prevalence rates between their broad definition (including non-contact CSA) and their narrow definition (including contact CSA only). According to these authors, this puzzling finding is due to the inclusion of some experiences in both their broad definition and their narrow definition. Related to this issue, the number of questions asked in order to assess CSA may affect the prevalence estimates to some extent because multiple questions can include more specific information about the definition of CSA than a single questions can, and more questions might also cover more aspects of CSA, and thus lead to higher prevalence rates.

This Study

The current meta-analysis aims at providing an estimate of the world-wide prevalence of CSA by integrating prevalence figures from a large body of research on CSA and its correlates. We focused on unraveling the substantial variation in prevalence figures reported in primary studies by analyzing the effects of geographical and sample characteristics and of procedural factors on combined prevalence rates. It is crucial to know whether design and measurement differences between prevalence studies partly or largely determine the outcomes. Meta-analyses might help to identify the set of studies with optimal design features for comparison across time and cultures.

We replicated and extended a previous meta-analysis on the same subject (Pereda et al., 2009b) by including a considerably larger number of studies (331 studies in our meta-analysis versus 100 in Pereda et al. [2009b]) and a larger number of moderators. A larger number of studies has several advantages. It increases the power of the analyses, which is important for the detection of smaller effect sizes and imperative in case of methodological heterogeneity of the studies included in the analyses (Valentine, Pigott, & Rothstein, 2010). Furthermore, the larger number of studies allows us to test the influence of moderators on estimates of prevalence rates separately for girls and boys, which was not done by Pereda et al. (2009b). CSA experiences of boys and girls show considerable divergence in prevalence and consequences.

Another important difference between Pereda et al. (2009b) and our meta-analysis is that Pereda et al. (2009b) included only self-report studies whereas we also included informant studies using reports of professionals. Exploring potential differences in prevalence estimates resulting from these rather different approaches is important because policy decisions regarding several aspects of (the prevention of) CSA are often based on government initiated informant studies

such as the National Incidence Study of Child Abuse and Neglect (NIS; Sedlak, 2001) in the United States, the Canadian Incidence Study of Reported Child Maltreatment (CIS; Trocmé, Tourigny, MacLaurin, & Fallon, 2003) in Canada, and the Nationale Prevalentiestudie Mishandeling van Kinderen en Jeugdigen (NPM; Van IJzendoorn et al., 2007) in the Netherlands. We expected prevalence rates to be higher for self-report studies than for informant studies, in which case policy decisions might be based on a possible underestimate of CSA prevalence if we have reason to suspect that self-reported prevalences would be closer to the true rate in the population.

We also expected combined rates to be higher for girls than for boys, and higher for studies using a more inclusive definition of CSA compared to studies using a more exclusive definition of CSA. Since previous results were inconclusive with regard to the influence on CSA prevalence of geographical area of origin of the sample, the method of sampling, and the method of data collection, analyses on these moderator variables were exploratory.

Method

Literature Search

Three search methods were used to identify eligible studies, published between January 1980 and January 2008. First, we searched the electronic databases PubMed, Online Contents, Picarta, ERIC, PsychInfo, and Web of Science for empirical articles using the terms *prevalence* and/or *incidence* combined with one of the following terms: *(child*) (sexual) maltreatment, (sexual) abuse,* and *victimization.* Second, we electronically searched the specialized journals *Child Abuse and Neglect* and *Child Maltreatment* with the same terms as mentioned above. Third, the references of the collected papers, dissertations, and book chapters were searched for relevant studies, as were other reviews and meta-analyses on child sexual abuse (CSA). Studies were included if the prevalence of CSA was reported (a) in terms of proportions at child level (excluding studies only reporting estimates of the family level) (b) for victims under the age of 18 years in (c) non-clinical samples, and (d) if sufficient data were provided to determine this proportion as well as the sample size.

If publications reported on the same sample or on overlapping samples, the publication providing the maximum of information was included in the meta-analysis. Thus, the independence of samples and the inclusion of every participant only once in the pertinent meta-analysis were ascertained. When possible and necessary, the coding form (Table 1) for the study was supplemented with information from the other -excluded- publications on the same sample. When a publication reported the prevalence of CSA for more than one sample separately, for example for male and female participants or for participants of different ethnicities, these sub-samples were treated as independent studies. This procedure yielded 217 publications, published from 1982 to 2008, covering a total of 331 samples.

Table 1. *Coding system*

Variable	Coding		Description
Sample characteristics			
Continent	1	Australia	Including New Zealand
	2	North America	Including USA and Canada
	3	Europe	
	4	Africa	
	5	South America	
	6	Asia	
Country's level of economic development	1	Developing	
	2	Developed	
Ethnicity	1	African-American	Predominance in sample, based on reports in the study
	2	Caucasian	
	3	Asian	
	4	Hispanic	
	5	African	
Age of respondent at assessment			Continuous
Gender distribution in sample	1	Male	
	2	Female	
	3	Mixed	
Procedural moderators			
Definition of abuse	1	According to NIS-3	Based on the types of behavior included in the definition
	2	Broader than NIS-3	
	3	Stricter than NIS-3	
Prevalence period	1	0-12	Age criterion that was used to define CSA; each participant was included in a single category
	2	0-13	
	3	0-14	
	4	0-15	
	5	0-16	
	6	0-17	
	7	0-18	
	8	Limited period: 1 year	
	9	Limited period > 1 year	
Age difference	1	Difference specified	The minimum age difference between victim and perpetrator in the definition of CSA
	2	No difference specified	
Type of instrument	1	Questionnaire	
	2	Interview face-to-face	
	3	Telephone interview	
	4	Computerized interview	
	5	Observation	
	6	Reports of professionals	
	7	Dossier or chart study	
Instrument validated	1	No	
	2	Yes	
Number of questions regarding CSA			Continuous; if a range was provided, the minimum number was coded
Respondent	1	Child or adolescent	
	2	Parent	
	3	Adult	
Response rate			Continuous
Sampling procedure	1	Random	
	2	Modified random	
	3	Convenience sample	
Sample size			Continuous
Evidence maltreatment	1	Self report	*Self report* was coded when parents were respondents
	2	Informant	
Background moderators			
Year of publication			Continuous
Publication outlet	1	Journal article	
	2	Dissertation	
	3	Book chapter	

Data Extraction

We coded three types of moderators: sample characteristics, procedural moderators, and publication moderators (see Table 1). S*ample characteristics* comprised the geographical area from which the sample originated (Australia/ New Zealand, North America, Europe, Africa, South America, Asia), the level of economic development of the sample's country of origin (high-resource or low-resource according to the World Economic Outlook Database [International Monetary Fund, 2010]), the predominant ethnicity of the sample (only used for the subset of studies originating from the USA and Canada), the age of the respondent at the time of assessment (recoded into three categories using the 33rd and 67th percentile scores: < 20 years, 20 – 30 years, > 30 years), and the gender distribution in the sample (100% female, 100% male, or mixed). The coded outcome was the proportion of children sexually abused. In order to be able to weight effect sizes, sample size was also coded.

Procedural moderators included the definition of CSA that was coded in accordance with the acts of perpetrators included in the definition used by the third National Incidence Study (Sedlak, 2001; see Appendix). This resulted in three categories ranging from stricter to broader than the NIS-3 definition. When the definition of CSA did not include all of the perpetrators' acts specified in the Appendix, 'stricter than NIS-3' was coded. When all and only those perpetrators' acts specified in the appendix were included in a study's definition of CSA, 'according to NIS-3' was coded. 'Broader than NIS-3' was coded when non-contact abuse (such as exhibitionism) was included in the study's CSA definition. Furthermore, procedural moderators included the period of prevalence (0-12, 0-13, 0-14, 0-15, 0-16, 0-17, 0-18, limited period 1 year, limited period > 1 year; each participant was included in a single category), and whether the definition of CSA in the study included the specification of an age difference between victim and perpetrator (difference specified, no difference specified). Procedural moderators regarding the measurement of CSA were the type of instrument used for the study (questionnaire, face-to-face interview, telephone interview, computerized interview, observation, reports of professionals, dossier/chart study), whether the instrument was validated (as reported by the studies; yes or no), and the number of questions asked (recoded into three categories using the 33rd and 67th percentile scores: less than 3, 3 to 7, 8 or more). Other procedural moderators included who the respondent was in the case of self-report (children/adolescents, adults, parents), the response rate (recoded into three categories using the 33rd and 67th percentile scores: low [< 66.8%], medium [66.8% – 85.2%], high [> 85.2%]), the sampling procedure (randomized - including random and modified random samples -, convenience, or other), the sample size (recoded into three categories using the 33rd and 67th percentile scores: small [< 265], medium [265 – 733], large [> 733]), and the kind of evidence used to determine CSA (self-report - scored also when parents reported on abuse of their children - versus informant, based on clinical judgment, medical evaluation, or jurisprudence),

Publication moderators were publication outlet (journal article, dissertation, book chapter, other) and year of publication (recoded into decades). To assess intercoder reliability, thirty publications were coded by two coders. Agreement between the coders for moderators and outcome variables was satisfactory (kappas for categorical variables between .52 and 1.00, average .78, and agreement between 65% and 100%, average 86%; intraclass correlations for continuous variables between .78 and 1.00, average .95; lowest inter-rater agreement for *period of prevalence,* complete agreement for *continent, economic development, ethnicity, age respondent, gender, sample size, evidence, year of publication, publication outlet*).

Meta-Analytic Procedures

Meta-analytical approaches are well-known in medical science, for example to test the effectiveness of an intervention on a disease. This type of research question requires methodological homogeneity of the studies included that ideally should be randomized controlled trials. In contrast, our meta-analysis included studies that were heterogeneous in their methodology, and one of our aims was to explore the possible influence of methodological factors on reported prevalence. This type of approach has been used earlier in other meta-analyses aiming at estimating prevalence (e.g., De Sanjosé et al., 2007; Pereda et al., 2009b; Van Os, Linscott, Myin-Germeys, Delspaul, & Krabbendam, 2009), as well as in many meta-analyses on non-experimental, correlational studies in human development (e.g., Barel, Van IJzendoorn, Sagi-Schwartz, & Bakermans-Kranenburg, 2010; Cyr, Euser, Bakermans-Kranenburg, & Van IJzendoorn, 2010; Juffer, & Van IJzendoorn, 2005).

The meta-analysis was performed using the Comprehensive Meta-Analysis (CMA) program (Borenstein, Rothstein, & Cohen, 2005). For each study, the proportion of abused children was transformed into a logit event rate effect size and the corresponding standard error was calculated (Lipsey & Wilson, 2001). After the analyses, the logits were retransformed into proportions to facilitate interpretation of the results. Combined effect sizes were computed using CMA. Analyses were carried out both including and excluding outlying logit event rates and including and excluding multivariate outlying studies. Multivariate outliers were detected after multiple imputation of missing values, using the missing values analysis in SPSS 17.0. Because no significant differences were found between analyses including and excluding outliers, results are reported including outliers.

Significance tests and moderator analyses were performed through random effects models (Borenstein, Hedges, & Rothstein, 2007). Fixed effects models are based on the assumption that effect sizes observed in a study estimate the corresponding population effect with random error that stems only from the chance factors associated with subject-level sampling error in that study (Lipsey & Wilson, 2001; Rosenthal, 1991). This assumption is not made in random effects models (Hedges & Olkin, 1985). Random effects models allow for the possibility

that there are also random differences between studies that are associated with variations in procedures, measures, or settings that go beyond subject-level sampling error and thus point to different study populations (Lipsey & Wilson, 2001). To test the homogeneity of the overall set and specific sets of effect sizes, we computed *Q*-statistics (Borenstein et al., 2005). In addition, we computed 95% confidence intervals (*CI*s), again based on random estimates, around the point estimate of each set of effect sizes. *Q*-statistics and *p*-values were also computed to assess differences between combined effect sizes for specific subsets of studies grouped by moderators. Again, the more conservative random effects model tests were used. Contrasts were only tested when at least two of the subsets consisted of at least four studies (Bakermans-Kranenburg, van IJzendoorn, & Juffer, 2003).

We used the "trim and fill" method (Duval & Tweedie, 2000a; Duval & Tweedie, 2000b) to calculate the effect of potential publication bias on the outcomes of the meta-analyses. Using this method, a funnel plot is constructed of each study's effect size against its precision (usually plotted as 1/SE). These plots should be shaped like a funnel if no publication bias is present. However, since smaller studies and studies with non-significant results are less likely to be published, studies in the bottom left-hand corner are often omitted (Duval & Tweedie, 2000b; Sutton, Duval, Tweedie, Abrams, & Jones, 2000). We used the logit of the reported prevalence as effect size. The *k* right-most studies considered to be symmetrically unmatched were trimmed. The trimmed studies can be replaced and their missing counterparts imputed or "filled" as mirror images of the trimmed outcomes. This then allows for the computation of adjusted overall effect sizes and confidence intervals (Gilbody, Song, Eastwood, & Sutton, 2000; Sutton et al., 2000).

Results

Combined Prevalence

The combined prevalence for the total set of studies ($k = 331$, $N = 9{,}911{,}748$) was 11.8% (95% *CI*: 10.0% – 13.8%; $p < .01$). The set of studies was heterogeneous, $Q(330) = 269{,}244.78$; $p < .01$, indicating that differences among the effect sizes existed within this set of studies that originate from another source than sampling error. We conducted a moderator analysis contrasting self-report studies with studies based on informants, which was significant, $Q(1) = 30.03$; $p < .01$, reflecting a difference in combined prevalence between studies using informants and studies using self-report measures of CSA. The combined prevalence was 0.4% (95% *CI*: 0.1% – 1.5%) for informant studies ($k = 8$, $N = 9{,}500{,}797$) and 12.7% (95% *CI*: 10.7% – 15.0%) for self-report studies ($k = 323$, $N = 410{,}951$). The confidence intervals of informant and self-report studies did not overlap. Therefore, these sets of studies were treated as representing separate populations of studies. We report the results of the moderator analyses for the set of self-report studies only because moderator analyses were not possible within the set of informant studies due to the small number of studies.

Table 2. *Results of moderator analyses for self-report studies: number of studies and participants, and combined prevalence including 95% confidence intervals (CI).*

		Female samples					Male samples				
		k[3]	N	Combined prevalence (%)	95% *CI*	Contrast Q[1]	k[3]	N	Combined prevalence (%)	95% *CI*	Contrast Q[1]
Sample characteristics											
Continent						19.28**					10.59*
	Africa	8	13,318	20.2**	13.1 – 29.7		5	1.403	19.3*	8.9 – 37.0	
	Asia	11	5,466	11.3**	7.5 – 16.6		8	3,888	4.1**	2.0 – 8.3	
	Australia	12	16,372	21.5**	15.3 – 29.3		8	10,775	7.5**	3.8 – 14.2	
	Europe	39	35,468	13.5**	11.0 – 16.5		24	26,513	5.6**	3.8 – 8.4	
	South America	3	1,564	13.4**	6.2 – 26.5		2	415	13.8*	3.7 – 40.0	
	USA/Canada	120	143,883	20.1**	18.1 – 22.4		57	99,681	8.0**	6.2 – 10.2	
Economic development						0.89					7.02**
	High-resource	174	196,830	18.3**	16.7 – 20.0		91	138,398	6.8**	5.5 – 8.2	
	Low-resource	19	19,241	15.9**	11.9 – 20.9		13	4,277	14.0**	8.5 – 22.2	
Ethnicity[2]						5.15					3.90*
	African American	12	3,332	26.3**	19.9 – 33.9		6	1,588	16.5**	7.6 – 32.1	
	Asian	1	278	25.0	9.0 – 53.0		1	192	11.0*	1.5 – 49.5	
	Caucasian	71	121,455	18.7**	16.6 – 21.0		34	88,096	7.2**	5.1 – 9.9	
	Hispanic	6	2,427	22.2**	14.7 – 32.2		3	1,864	7.7**	2.3 – 23.2	
Age of respondent						2.61					2.92
	Under 20 years	40	18,586	19.8**	16.4 – 23.8		19	9,020	6.6**	4.2 – 10.1	
	20 – 30 years	34	15,949	21.0**	17.1 – 25.5		25	15,344	10.4**	7.2 – 14.7	
	Over 30 years	40	47,346	16.8**	13.8 – 20.4		15	23,194	7.2**	4.4 – 11.4	
Procedural moderators											
Definition CSA						8.72**					2.57
	Broader than NIS-3	59	44,365	19.1**	16.3 – 22.2		38	70,949	7.0**	5.0 – 9.7	
	Stricter than NIS-3	61	82,403	15.1**	12.9 – 17.7		38	51,320	6.9**	5.0 – 9.5	
	According to NIS-3	47	71,117	21.2**	17.8 – 25.0		17	11,906	10.7**	6.6 – 16.8	
Period of prevalence[4]						24.32**					4.26
	0-12	3	2,248	6.6**	3.0 – 13.9		2	287	11.2*	3.0 – 34.0	
	0-13	8	2,562	6.6**	4.0 – 10.7		7	2,120	10.0**	5.0 – 19.1	
	0-14	7	2,623	28.8*	19.2 – 40.8		4	4,030	9.4**	3.7 – 21.7	
	0-15	14	20,390	16.4**	11.9 – 22.3		5	4,073	12.8**	5.8 – 26.0	
	0-16	43	36,657	19.0**	15.9 – 22.5		27	24,667	7.0**	4.9 – 9.9	
	0-17	14	11,045	16.2**	11.7 – 21.9		10	39,949	5.5**	3.1 – 9.8	
	0-18	94	135,778	18.7**	16.6 – 21.0		46	56,566	6.8**	5.1 – 9.0	

Age difference						8.29**					11.8**
	Difference specified	54	31,689	22.0**	18.8 – 25.6		25	18,935	12.9**	9.0 – 18.1	
	No difference specified	139	184,382	16.7**	15.0 – 18.4		79	123,740	6.2**	5.0 - 7.7	
Type of instrument						10.52*					3.75
	Interview face-to-face	41	21,889	17.4**	14.4 – 20.9		11	8,645	6.5**	3.5 – 11.6	
	Interview telephone	14	33,727	13.8**	9.9 – 18.8		12	21,149	5.4**	3.0 – 9.4	
	Questionnaire	127	139,125	19.7**	17.8 – 21.8		71	98,008	8.2**	6.5 – 10.3	
	Questionnaire computer	5	10,082	9.7**	5.4 – 16.9		6	12,252	4.5**	2.0 – 9.7	
Instrument validated						0.07					1.82
	No	112	142,622	17.6**	15.7 – 19.8		72	110,655	6.6**	5.2 - 8.4	
	Yes	69	68,899	18.1**	15.6 – 20.8		26	29,124	9.0**	6.1 – 13.0	
Number of questions						30.11**					5.95
	under 3	43	94,548	12.0**	10.0 – 14.3		28	73,051	4.8**	3.3 – 7.0	
	3 to 7	49	60,761	19.9**	17.0 – 23.1		28	33,808	10.4**	6.2 – 12.7	
	8 and over	47	26,807	22.5**	19.2 – 26.1		21	14,425	7.9**	5.2 – 11.8	
Respondent						0.30					6.84*
	Adult	156	124,449	18.4**	16.7 – 20.2		78	99,769	8.6**	7.0 – 10.7	
	Child	36	90,889	17.3**	14.2 – 21.0		24	42,017	4.7**	3.2 – 7.1	
Response rate						6.40*					10.09**
	Low	51	59,139	20.4**	17.2 – 24.1		25	70,781	6.1**	4.1 – 9.0	
	Moderate	48	65,601	14.9**	12.4 – 17.9		32	50,039	5.0**	3.5 – 7.1	
	High	45	72,091	18.8**	15.6 – 22.5		27	15,852	11.1**	7.7 – 15.8	
Sampling procedure						1.93					12.31**
	Convenience	106	60,308	19.1**	17.0 – 21.3		53	76,953	10.3*	7.9 – 13.3	
	Randomized	86	155,711	16.9**	14.8 – 19.2		51	65,722	5.2*	3.9 – 6.8	
Sample size						25.50**					12.35**
	Small	54	9,733	22.0**	18.8 – 25.4		29	4,760	12.0**	8.6 – 16.5	
	Medium	51	34,215	19.8**	17.5 – 22.3		39	13,804	7.2**	5.4 – 9.7	
	Large	55	172,123	13.0**	11.1 – 15.2		36	124,111	5.4**	4.0 – 7.2	
Background moderators											
Year of publication						4.10					1.48
	Before 1990	24	10,969	18.3**	14.4 – 23.1		10	7,177	5.6**	2.9 – 10.7	
	1990 – 1999	80	52,202	19.8**	17.4 – 22.4		44	29,413	6.9**	5.4 – 9.7	
	After 1999	89	152,900	16.5**	14.6 – 18.7		50	106,083	8.3**	4.0 – 7.2	
Publication outlet						5.24*					--
	Dissertation	5	1,822	31.8*	19.6 – 47.0		1	213	12.2	1.7 – 52.7	
	Journal	186	206,035	17.8**	16.3 – 19.4		102	135,434	7.4**	6.1 - 9.0	

*$p < .05$, **$p < .01$; [1]subgroups with $k < 4$ or 'other' categories are excluded from contrasts; [2]for the subset of studies originating from the USA and Canada; [3]differences in totals of k are due to the exclusion from the pertinent analysis of studies with missing values; [4]all participants are included in a single category

Duvall and Tweedie's (2000a; 2000b) trim and fill method revealed no asymmetry in the funnel plots for self-report and informant studies. The absence of unmatched studies on the right side suggests that asymmetrical publication bias is unlikely.

Moderator Analyses

The results of all moderator analyses on the set of self-report prevalence studies are presented in Table 2, in the left-hand column for girls and in the right-hand column for boys. The results of the moderator analyses using *gender* are presented separately in the next paragraph.

Sample characteristics. The result of the moderator analysis for *gender* (female, male, mixed) was significant, $Q(2) = 105.33$; $p < .01$, as was the result of the analysis contrasting studies with female and male samples, $Q(1) = 92.63$; $p < .01$. The combined prevalence for female samples was 18.0% (95% *CI*: 16.4% – 19.7%; $p < .01$), for male samples 7.6% (95% *CI*: 6.6% – 8.8%; $p < .01$), and for samples with mixed gender 8.7% (95% *CI*: 6.5% – 11.6%; $p < .01$). Because the confidence intervals of female and male samples did not overlap, we decided to conduct further moderator analyses separately for female and male samples (see Table 2).

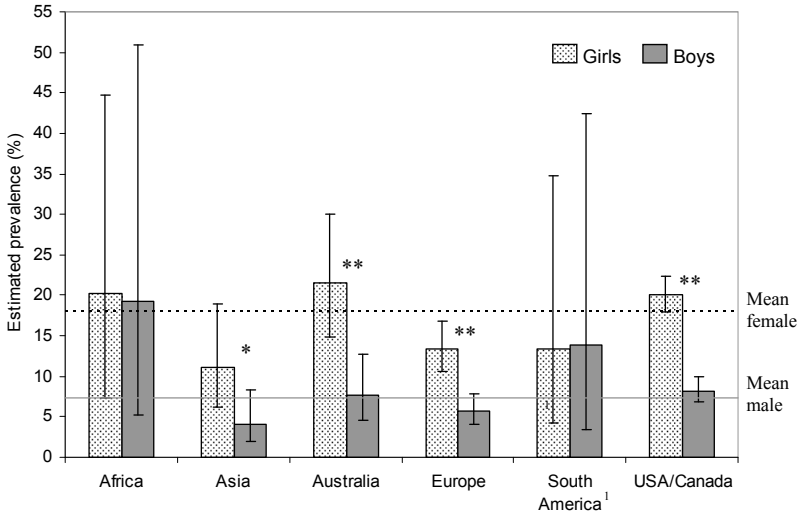

Figure 1. Estimated combined prevalence for self-report studies of CSA, separated according to geographical area of origin of the sample and to gender, including the overall combined prevalence for girls and boys. Stars represent a significant difference between girls and boys within a geographical area of origin of the sample (*p<.05; **p<.01).

[1] The significance of the analyses on the South American samples could not be tested, due to k<4.

Significant differences were found between the *continents* of origin of the sample for girls as well as for boys. The highest combined prevalence was found in Australia for girls and in Africa for boys whereas the lowest combined prevalence was found in Asia for both genders. This can also be seen in Figure 1, representing the results of moderator analyses using gender, carried out separately for each continent. Significant gender differences were found in Asia, Australia, Europe, and USA/Canada, with girls showing a higher combined prevalence than boys. With respect to the level of *economic development* of the sample's country of origin, significant differences were found for boys but not for girls. For boys, the combined prevalence was higher in low-resource countries than in high-resource countries. When *ethnicity* was used as a moderator on the sub-sample of studies with samples originating from the USA and Canada, differences between ethnic groups were found for boys but not for girls. For boys only, the combined prevalence for African-American samples was higher than for Caucasian samples. No significant differences were found related to the *age of the respondent* at the time of the study, indicating a comparable combined prevalence for studies using respondents younger than 20 years old, 20 to 30 years old, and older than 30 years.

Procedural moderators. Figure 2 shows the procedural moderator analyses resulting in significant effects for girls, boys, or both genders. Regarding the definition of CSA, significant differences were found for girls only, with the studies using the NIS-3 definition yielding the highest combined prevalence, followed by studies using a broader definition. Studies using a stricter definition reported the lowest combined prevalence. For girls, the combined prevalence differed according to the *period of prevalence* used in studies in order to assess the occurrence of CSA. The combined prevalence was highest in studies using a 0-14 year period, followed by 0-16 and 0-18 periods and by 0-17 and 0-15 periods. The lowest combined prevalence was reported in studies using a 0-13 period. For girls and boys, the reported prevalence was significantly influenced by the inclusion or exclusion of an *age difference* criterion between perpetrator and victim. The reported age difference was usually five years (52 out of 54 studies on girls and all of the studies on boys), and only twice an age difference of three years was used. The combined prevalence of studies including such an age-difference criterion was higher than the combined prevalence of studies without an age-difference criterion.

For girls but not for boys, the combined prevalence differed between the *types of instrument* used to assess CSA. The lowest combined prevalence was found in studies using a computerized questionnaire, the highest in studies using paper-and-pencil questionnaires. The combined prevalence of both types of interviews – face-to-face and by telephone – was in between the types of questionnaires. For both genders, whether studies used a *validated* or a non-validated instrument was not a factor of influence on combined prevalence. With respect to *number*

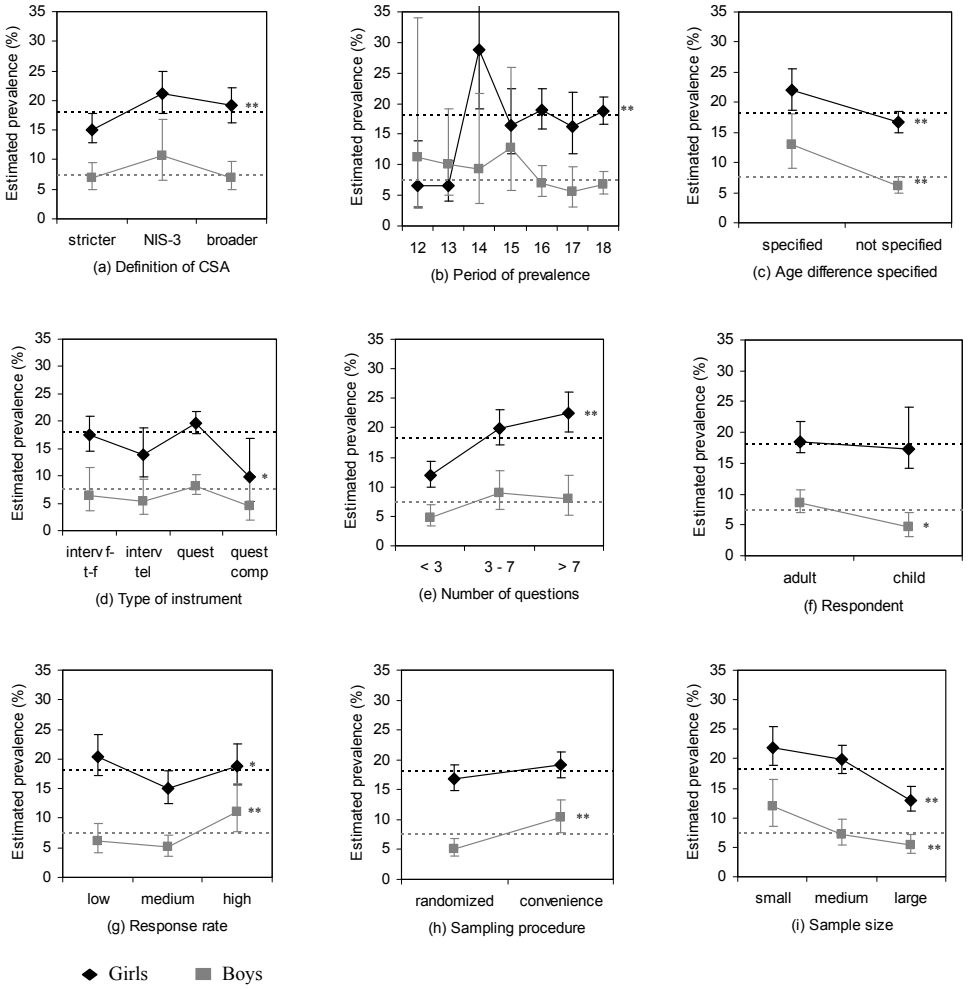

Figure 2. The influence on estimated prevalence of self-reportstudies of CSA of (a) the definition of CSA, (b) the period of prevalence, (c) whether an age difference was specified in the definition of CSA, (d) the type of instrument, (e) the number of questions that were used to assess CSA, (f) the respondent, (g) the response rate, (h) the sampling procedure, and (i) the sample size. Dotted lines represent the overall mean estimated reported prevalence for girls and boys. Stars represent a significant difference between categories within female or male studies (*p<.05; **p<.01).

of questions, a larger number of questions about CSA concurred with a higher combined prevalence for girls but not for boys. For boys but not for girls, the *respondent* used in studies mattered with respect to the combined prevalence, with adult men showing a higher combined prevalence than boys.

Regarding *response rate*, the lowest combined prevalence was found in the medium range for both genders, the highest in the low range for girls and in the high range for boys. The results of moderator analyses with *sampling procedure* were significant for boys only. The combined prevalence reported in studies using male convenience samples was approximately twice the combined prevalence reported in studies using male randomized samples. Furthermore, the larger the *sample size*, the lower the combined prevalence for both girls and boys.

Publication moderators. No significant differences in combined prevalence existed with regard to the *year of publication*, independent of the gender of the sample. For girls but not for boys, the result of the analysis with *publication outlet* was significant. The combined prevalence of the studies reported in dissertations was significantly higher than the combined prevalence in studies reported in journals.

Discussion

Using meta-analytical methods, we combined prevalence figures on CSA reported in 217 publications published between 1982 and 2008. The global prevalence of CSA was estimated to be 11.8% or 118 per 1000 children, based on 331 independent samples with a total of 9,911,748 participants. As hypothesized, a gap existed between the combined prevalence from self-report studies and from informant studies. The difference was much larger than expected with self-report studies yielding a combined rate that was 30 times higher than the rate of informant studies (127 per 1000 children versus 4 per 1000 children). Sample characteristics and methodological aspects of the informant studies might account for part of the difference in reported prevalence. For example, four out of eight informant studies were based on reports of CSA during the last year whereas most of the self-report studies used an up-to-18 year's period of prevalence. Reporting CSA over a one year period limits the time frame and reduces the number of persons that experienced CSA compared to reporting CSA over the entire childhood period. Also, seven out of eight informant studies used randomized samples whereas only about half of the self-report studies did so. In the set of male self-report studies random sampling resulted in a lower reported prevalence compared to convenience samples, which points to the possibility that randomized studies are associated with lower estimates. Last but not least, all informant studies used reports registered by professionals, thus excluding unreported cases of CSA that might have been reported had self-report measures been used.

Gender

A substantial difference in the prevalence of self-reported CSA was found between girls and boys. This was true globally and for most continents separately. Women reported CSA more often than men, which is convergent with the meta-analysis by Pereda et al. (2009b). The prevalence rates we found were comparable to those reported in Pereda et al. (2009b): 18.0% for girls and 7.6% for boys (Pereda et al. [2009b]: 19.7% and 7.9% respectively). Gender differences for reported prevalence of CSA may be due to either higher occurrence of CSA among girls than among boys, or to boys' more reluctant attitude towards disclosing their CSA experiences, or both causes might play a role (Dhaliwal, Gauzas, Antonowicz, & Ross, 1996; Finkelhor & Baron, 1986; O'Leary & Barber, 2008; Romano & De Luca, 2001). Men might be reluctant to disclose CSA for several reasons, among which feelings of weakness and of failure because of society's traditional view of men as aggressors rather than as victims (Dhaliwal et al., 1996; Romano & De Luca, 2001).

Moreover, boys might be afraid of being considered the instigator of CSA rather than the victim (Dhaliwal et al., 1996), or they may not view their sexual experiences with older women as sexual abuse because of sex stereotypes (Coxell, King, Mezey, & Gordon, 1999). As the majority of CSA perpetrators are male, male victims may also fear being regarded as homosexual (Dhaliwal et al., 1996; Romano & De Luca, 2001). Male victims who disclose their CSA experiences tend to do so later than female victims (O'Leary & Barber, 2008). On average, it would take most male CSA victims more than ten years before they start to discuss their CSA experiences. For women, the average period between the CSA experiences and disclosure was found to be much shorter (O'Leary & Barber, 2008). This might contribute to higher rates for girls than for boys, and explain our finding that for boys the prevalence was higher in adult samples than in child samples, a finding that was not replicated for girls.

Continent of Origin of the Sample

Continent of origin of the sample influenced the CSA prevalence as well. This converges with the results of the meta-analysis of Pereda et al. (2009b), but in that meta-analysis separate prevalences for boys and girls per continent were not reported. It should be noted that most prevalence studies have not been conducted with the explicit goal to compare prevalence rates across a variety of cultures. In fact, the cultural perspective on prevalence of child maltreatment across cultures is still underdeveloped although recently some progress has been made (Mbagaya, 2010). Geographical area and culture may be overlapping but are not necessarily similar, and any comparison between countries or continents might not be generalized to cultural differences. Nevertheless, Hofstede (2001) proposed some major cultural dimensions that are globally related to countries and geographic areas, and one of the dimensions is individualism or the emphasis on the collective (Hofstede, 2001), which might be relevant to child maltreatment prevalence estimates.

For example, for girls and boys, we found the lowest combined prevalence in Asia. The fairly low CSA rates for both genders in Asia seem to be consistent with the idea that abuse experiences are less often disclosed in a collectivist culture than in individualistic cultures. The highest prevalence for girls found in more individualistic countries like Australia and New Zealand might partially stem from culturally based willingness to disclose their sexual experiences and the ease with which they talk about sexuality (Kenny & McEachern, 2000b; Runyan, 1998). Values related to taboos on sexuality found in many Hispanic cultures, or shame associated with disclosure of CSA, are thought to prevent abused persons from talking about their experiences. In the Hispanic cultures of South America one might expect to find fairly low rates of reported prevalence because of the secrecy around early sexual experiences. The high combined rate of 22.2% among the female Hispanic American samples is not consistent with this expectation. Unfortunately, the number of studies originating from South America was too small to be contrasted with those of other continents. More studies on the prevalence of CSA research in this geographical area are badly needed.

The alternative explanation would be that differences between continents reflect real differences in the prevalence of CSA. Mbagaya (2010), for example, argued that differences in prevalence rates between countries may not (only) be due to disclosure issues but to real socio-economic and cultural differences. On the African continent, initiation rites representing the "transition into adulthood" in early and mid-adolescence may encourage sexual behaviors with older persons (Mbagaya, 2010). Myths associated with HIV cure and avoidance strategies may increase the prevalence of CSA in sub-Saharan Africa (Lalor, 2008). In addition, young partners are considered less likely to have HIV, and are thus preferred as sexual partners (Madu & Peltzer, 2000). Furthermore, Madu and Peltzer (2000) pointed out that the male dominant society in South Africa may be responsible for high CSA rates because men in such societies feel that they have authority over women and children. The socialization of African children to unquestioningly obey older people puts them at risk for sexual abuse by people to whom they are expected to pay their respects (Lalor, 2008; Mbagaya, 2010). Lastly, the rapid social changes in Africa along with increases in urbanization and individualism have led to greater isolation of families. In situations where children are left with biologically unrelated caregivers when parents go to work, the risk of sexually abusive experiences increases (Mbagaya, 2010).

Procedural Moderators

Some procedural factors influenced self-reported prevalence of CSA for boys and girls (e.g., sample size showing the same pattern of influence for both genders), other factors influenced the prevalence for only one of the genders (e.g., number of questions showed a significant effect for girls but not for boys).

Based on the effects on reported prevalence of procedural moderators in our set of self-report studies, and the speculation that the combined prevalence from informant studies might underestimate while the combined prevalence from self-report studies might overestimate the CSA prevalence rate, we suggest some recommendations aiming at the reduction of possible biases in estimations of CSA prevalence in self-report studies. The use of sufficiently large population-based randomized samples is indicated, and this not only because of the formal aspect of generalizability to the general population of a country. In our meta-analysis, a lower combined prevalence for self-report studies was found in male randomized samples compared to male convenience samples, and self-report studies with larger sample sizes resulted in a lower combined prevalence compared to studies with medium or small sample sizes for both genders. The findings indicate that studies with better methodological qualities yield lower estimated prevalence rates. Tentatively, this could be seen as evidence that lower prevalence estimates could be more accurate compared to higher prevalence estimates.

Limitations and Future Research

The heterogeneity in the subsets of studies, despite the moderators that were taken into account, indicates that the sample characteristics and methodological factors included in this meta-analysis did not yet fully explain the vast variation in self-reported rates of CSA. Unfortunately, the small number of informant studies did not allow for examining the influence of sample characteristics and methodological factors on the estimated prevalence. Comparing moderators of prevalence estimates for informant and self-report studies could add to our understanding of the strengths and weaknesses of both types of studies.

Studies using both informants and self-report data within a single, nationally representative randomized sample could contribute to clarifying the large difference in reported prevalence between these two study types. To ensure comparability of the prevalence rates it would be imperative that identical, clearly operationalized criteria for CSA are used for both the informant and the self-report measurements. We would recommend using CSA criteria that correspond to the legal definition of CSA in the specific country, so that the results of studies will be useful for local policy makers. Alternatively, the criteria for CSA could be derived from official international organizations, e.g., the definition provided by the Consultation on Child Abuse Prevention of the World Health Organization (1999). This would ensure the comparability of prevalence among countries.

With regard to the measurement of CSA, the results of this meta-analysis emphasize the recommendation of the use of multiple behaviorally-specific questions instead of a single-item label question, in line with Koss' (1993) recommendation with regard to rape. By analogy with the measurement of infant temperament, answers on behaviorally-specific questions such as "*During the past week, when being undressed, how often did your baby cry?*" (Infant Behavior

Questionnaire; Rothbart, 1981) provide more precise information than broad questions such as "*How much does your baby fuss / cry in general?*" (Infant Characteristics Questionnaire; Bates, Bennett Freeland, & Lounsbury, 1979). In this study, the use of one or two questions was associated with a stricter definition of CSA whereas a broader definition of CSA was reflected in the use of more questions. The use of behaviorally-specific questions about CSA would also eliminate a possible drawback of self-report studies that leave the interpretation of the global term 'sexual abuse' to the participants' subjective perceptions and definitions. Developing an instrument including behaviorally-specific questions based on the rather broad, non behaviorally-specific definitions of CSA provided by international organizations might prove to be quite challenging, especially if one would like the instrument to be universally applicable. The development of such an instrument might be preceded by a clearer specification of the acts that constitute CSA according to international organizations and across a wide variety of cultures. An empirical conceptual analysis focusing at more concrete and precise operationalizations of CSA might be especially useful. Such an approach has for example been successful in the area of attachment and sensitivity research (Posada et al., 1995; De Wolff & Van IJzendoorn, 1997).

In our opinion, the large costs to society of (the consequences of) CSA would warrant the investment in a study using both informant and self-report measures including multiple behaviorally specific questions in the same large, randomized, population-based sample, as such a study could provide the most accurate estimate of CSA prevalence as a basis for preventive policy measures.

Conclusion

The current meta-analysis shows that CSA is a global problem of considerable extent, even though methodological differences between studies have an impact on the reported prevalence of CSA. The prevalence rates contrast sharply with the United Nation's Convention on the Rights of the Child (1989) in which the 194 ratifying countries (November 2009) explicitly state that they shall take all appropriate legislative, administrative, social, and educational measures, either nationally, bilaterally, or multilaterally, in order to protect children from sexual abuse. The results of our meta-analysis show a lower limit estimate of self-reported CSA prevalence in girls of 164/1000 and an upper limit estimate of 197/1000. For boys the lower limit is 66/1000 and the upper limit is 88/1000. Even the lower bound estimates are alarming in their demonstration that CSA is a global phenomenon affecting the lives of millions of children.

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Appendix A
NIS-3 Definitions of Child Sexual Abuse[1]

Specific Form of Maltreatment (NIS–3 code)	Acts/Omissions Included
Penile Intrusion (01.0)	Sexually assaulting or exploiting a child or permitting sexual assault or exploitation of a child where acts involving penile penetration of or by child have occurred. Such acts include oral (fellatio), anal (sodomy), or genital intercourse, whether heterosexual or homosexual. Category includes cases where sexual exploitation (involving intrusion) by other persons was knowingly permitted by a person responsible for the child (e.g., child's prostitution, child's involvement in pornography with intrusion, child's nonvoluntary involvement in intrusion sex). Category does not include sexual abuse of an unknown nature, situations encompassed by categories in 02 or 03, nor inadequate supervision of child's voluntary sexual activities. The mere presence of venereal disease does not constitute adequate evidence to support that this form of maltreatment occurred.
Intrusion by Finger or Any Object (01.1)	Sexually assaulting or exploiting a child or permitting sexual assault or exploitation of a child where acts involving penetration with fingers or any object, of or by child, have occurred.
Molestation with Genital Contact (02.0)	Sexually assaulting or exploiting a child or permitting sexual assault or exploitation of a child where acts involving genital contact of or by child -but not involving (specific indications of) actual intrusion- have occurred. Such acts would include penile or vaginal fondling or stimulation of or by child, whether heterosexual or homosexual.
Other or Unknown Sexual Abuse (03.0)	Committing or permitting sexual assault, exploitation, maltreatment, or abuse other than categories 01 and 02, above. This could include: sexual assault or exploitation where acts did not involve actual intrusion or genital contact (e.g., exposure, inappropriate kissing, hugging, fondling of breasts, buttocks, or other nongenital areas; etc.); and sexual assault or molestation where acts were of unknown or unspecified nature (i.e., no specific indication that intrusion or genital contact had occurred). Category includes all allegations involving child's voluntary sexual activities, such as allegations concerning inadequate or inappropriate supervision of child's voluntary sexual activities. Category does not include attempted, threatened, or potential sexual assault or exploitation if no actual sexual contact was indicated to have occurred. When no physical contact appears to have occurred, allegation should be coded elsewhere (see categories 06[2] and 07[3]).

[1] Extracted from Sedlak, 1996
[2] Emotional Abuse, category Verbal or Emotional Assault
[3] Emotional Abuse, category Other or Unknown Abuse

3

Cultural-geographical differences in the occurrence of child physical abuse? A meta-analysis of global prevalence

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Abstract

Our comprehensive meta-analysis combined prevalence figures of child physical abuse reported in 111 studies, including 168 independent samples with a total of 9,698,801 participants. The overall estimated prevalence was 3/1,000 for studies using informants and 226/1,000 for studies using self-report measures of child physical abuse, with no apparent gender differences. Methodological factors partly explained the vast variation of self-reported prevalence rates in individual studies. The highest prevalence rates were found for studies using a broad definition of child physical abuse, studies measuring physical abuse over the longest period of 0-18 years, studies using college samples, studies in which adults served as respondents, and studies using more questions on physical abuse. Cultural-geographical factors did not seem to affect prevalence rates of physical abuse, which may be partly due to procedural factors. More cross-cultural research on physical abuse is badly needed, especially in Africa and South America. We conclude that child physical abuse is a widespread, global phenomenon affecting the lives of millions of children all over the world, which is in sharp contrast with the United Nation's Convention on the Rights of the Child.

Introduction

Childhood physical abuse is defined by the Consultation on Child Abuse Prevention (WHO, 1999) as

> ……that which results in actual or potential physical harm from an interaction or lack of an interaction, which is reasonably within the control of a parent or person in a position of responsibility, power or trust….. (p. 15).

Childhood physical abuse is a widespread phenomenon with adverse effects on children's short- and long-term development. Physically abused children are at increased risk for physical (Springer, Sheridan, Kuo, & Carnes, 2007), behavioral (Shen, 2009; Lansford, Dodge, Pettit, Bates, Crozier, & Kaplow, 2002; Todd Manly, Kim, Rogosch, & Cicchetti, 2001; Wilson & Spatz Widom, 2010), cognitive (Perez & Spatz Widom, 1994), and psychological problems (Lansford et al., 2002; Springer et al., 2007; Todd Manly et al., 2001; Yanos, Czaja, & Spatz Widom, 2010) indicating that, beyond the harm done to children, the costs of physical abuse for society are also considerable.

That said, it is not clear how often physical abuse actually occurs. Prevalence rates reported in individual studies range from 0.0092% (Sibert et al., 2002) to 95.7% (Milner, Robertson, & Rogers, 1990), underlining the need for a meta-analytic synthesis. We conducted such a meta-analysis, aiming at providing a world-wide estimate of the prevalence of childhood physical abuse. In an attempt to unravel the substantial variation in prevalence figures reported in primary studies we investigated the influence on physical abuse prevalence of methodological factors and sample characteristics, focusing on possible variation due to geographical areas of origin of the samples and ethnicity of the samples.

Cultural differences

Cultural differences in the occurrence of childhood physical abuse have not been extensively investigated, which makes it difficult to formulate hypotheses regarding variation in reported prevalence. Inspiration for such hypotheses comes from research on physical discipline, which can be seen as one end of a continuum of unpleasant parental behaviors with physical abuse on the other end (Whipple & Richey, 1997). Parents who physically discipline their children are at greater risk for physically abusing their children (Zolotor, Theodore, Chang, Berkoff, & Runyan, 2008). The perception of greater normativeness of physical discipline strategies seems to be related to more frequent use of this strategy (Lansford et al., 2010), and to disregarding physically abusive behaviors such as slapping, hitting, or spanking as physical abuse (Garcia & Herrero, 2008). Therefore, it may be expected that the prevalence of physical abuse is higher in cultures in which physical discipline is an acceptable strategy, such as in Africa and Asia (Mbagaya, 2010; Meston, Heiman, Trapnell, & Carlin, 1999).

Poverty or low socioeconomic status (SES) might be another factor contributing to a higher prevalence of child physical abuse because a lack of resources causes stress for parents and this could in turn increase the use of harsh and abusive physical discipline (Deater-Deckard, Bates, Dodge, & Pettit, 1996; Dodge, Pettit, & Bates, 1994; Mesman, Van IJzendoorn, & Bakermans-Kranenburg, in press). A large family size increases family stress, is a strain on family resources (Euser, Van IJzendoorn, Prinzie, & Bakermans-Kranenburg, 2011), and is found to be related to child physical abuse (Stith et al. 2009). Both poverty and large family sizes are more common in low-resource than in high-resource countries. Accordingly, we may expect to find higher prevalences of child physical abuse in low-resource countries compared to high-resource countries.

On the more positive side, Korbin (1991) describes that the embeddedness of child rearing in social networks, which is common in many parts of the world, may serve as a protective factor for maltreatment. Social networks provide opportunities for assistance with child rearing tasks, diminishing the chance of harsh parenting. Further, unwanted children, who are at higher risk for maltreatment than children who are wished for, can be informally fostered or adopted by members of the social network. Lastly, the regular involvement of others in child rearing will not only aid in conserving acceptable boundaries of child rearing methods and goals, it will also better allow for interventions across families when these boundaries are crossed, thus reducing the chances of maltreatment. In contrast, and for the opposite reasons, isolation of families has been found to be a risk factor for child maltreatment in general and physical abuse in particular (for a review see Cicchetti & Valentino, 2006), as has single parenthood (Brown, Cohen, Johnson, & Salzinger, 1998; Stith et al., 2009).

This Study

Although cultural differences in the prevalence of child physical abuse might exist, it is not clear how often child physical abuse occurs in different parts of the world. The current meta-analysis was conducted with the specific aim of providing an estimate of the world-wide prevalence of child physical abuse, focusing on possible differences based on ethnicity and on geographical areas of origin of the samples. In addition, the influence of other sample characteristics and methodological factors on the reported prevalence of child physical abuse was examined.

Method

Literature Search

Three search methods were used to identify eligible studies, published between January 1980 and January 2008. First, we searched the electronic databases PubMed, Online Contents, Picarta, ERIC, PsychInfo, and Web of Science for empirical articles using the terms *prevalence* and/or *incidence* combined with one of the following terms: *(child*) (physical) maltreatment, (physical) abuse,* and *(physical)*

victimization. Second, we electronically searched the specialized journals *Child Abuse and Neglect* and *Child Maltreatment* with the same terms as mentioned above. Third, the references of the papers, dissertations, and book chapters that were collected were searched for relevant studies, as were other reviews and meta-analyses on physical abuse. Studies were included if the prevalence of physical abuse was reported (a) in terms of proportions at child level (excluding studies only reporting estimates at the family level) (b) for victims under the age of 18 years in (c) non-clinical samples, and (d) if sufficient data were provided to determine this proportion as well as the sample size.

If different publications reported on the same sample or on overlapping samples, the publication providing the maximum of information was included in the meta-analysis. Thus, the independence of samples and the inclusion of every participant only once in the meta-analysis were ascertained. When possible and necessary, the coding form for the study was supplemented with information from the other – excluded – publication(s) on the same sample. When a publication reported the prevalence of physical abuse for more than one sample separately, for example for male and female participants or for participants of different ethnicities, these sub-samples were treated as independent studies. This procedure yielded 111 publications, published from 1986 to 2007, covering reports on the prevalence of physical abuse for 168 samples including 9,698,801 participants.

Data Extraction

We coded two types of moderators: sample characteristics and procedural moderators. S*ample characteristics* comprised gender (male, female, mixed), the country and the geographical area from which the sample originated (Africa, Asia, Australia and New Zealand, Europe, North America, South America), the predominant ethnicity of the sample for the subset of studies originating from the USA and Canada (African American, Asian, Caucasian, or Hispanic), the level of economic development of the sample's country of origin (high-resource or low-resource according to the World Economic Outlook Database [International Monetary Fund, 2010]), the type of sample (cohorts, college samples, high school samples, samples originating from a specific occupational group, and populations), and in case of self-report who the respondent was (adults or children reporting on their own abuse experiences, or parents reporting on the abuse experiences of their children).

Procedural moderators included the following variables: the type of evidence used to determine physical abuse (self-report - scored also when parents reported on the abuse experiences of their children - *versus* informant, based on clinical judgment, medical evaluation, or jurisprudence), the definition of physical abuse that was used compared to the definition used in the third National Incidence Study (Sedlak, 2001), resulting in two categories (stricter than or according to NIS *versus* broader than NIS), the period of prevalence for which respondents were

Table 1. *Results of moderator analyses for self-reported physical abuse: number of studies and participants, and combined prevalence including 95% confidence intervals* (CI)*.*

		k[3]	*N*[5]	Combined prevalence (%)	95% *CI*	*Q* heterogeneity	Contrast *Q*[1]
Overall estimate		157	250.167	22.6**	19.6 – 26.1	36,444.67**	
Sample characteristics							
Gender							1.42
	Female	74	77,518	22.3**	18.0 – 27.3	8,394.51**	
	Male	45	48,340	24.8**	18.9 – 31.7	7,799.27**	
	Mixed	33	63,198	13.8**	13.8 – 26.3	16,024.41**	
Continent							4.46
	Africa	4	4,626	22.8*	8.5 – 48.3	29.33**	
	Asia	20	13,023	16.7**	10.6 – 25.3	2,307.45**	
	Australia	9	14,314	14.3**	7.2 – 26.5	2,133.46**	
	Europe	19	16,285	22.9**	14.9 – 33.6	3,365.65**	
	North America	102	144,794	24.0**	20.1 – 28.5	26,347.57**	
	South America	3	1,623	54.8	24.2 – 82.1	548.60**	
Ethnicity[2]							0.39
	African American	7	2,673	24.3**	13.6 – 39.4	292.07**	
	Asian	3	542	72.7	47.2 – 88.8	12.19**	
	Caucasian	63	95,361	22.9**	19.0 – 27.4	11,043.79**	
	Hispanic	2	198	40.0	14.5 – 72.3	71.18**	
Economic development							0.84
	High-resource	140	180,805	23.2**	19.9 – 26.9	34,786.15**	
	Low-resource	17	13,860	18.5**	11.4 – 28.7	1,344.02**	
Type of sample							27.57**
	Cohort	17	24,334	17.9**	11.2 – 27.3	2,447.54**	
	College	39	25,090	40.3*	31.9 – 49.2	7,696.16**	
	High school	22	18,817	17.6**	11.7 – 25.6	1,101.20**	
	Occupational group	10	18,038	12.5**	6.5 – 22.8	2,727.61**	
	Population	56	91,248	20.2**	15.8 – 25.5	13,124.72**	
Respondent							11.60**
	Adult	111	122,134	24.6**	20.8 – 28.8	26,208.69**	
	Child	34	58,680	14.5**	10.4 – 20.0	4,617.05**	
	Parent	12	13,851	34.2*	21.4 – 49.8	1,794.94**	
Procedural moderators							
Definition							17.24**
	NIS or stricter	101	135,244	22.7**	19.0 – 27.0	27,147.91**	
	Broader than NIS	28	33,434	45.1	34.9 – 55.8	3,936.70**	
Period of prevalence[4]							6.41**
	Limited period up to 1 year	17	16,378	13.1**	8.0 – 20.8	2,811.21**	
	0-12	6	6,607	31.4	15.3 – 53.7	1,512.23**	
	0-18	122	164,432	23.3**	19.8 – 27.3	28,845.79**	
Type of instrument							5.66
	Interview face-to-face	30	31,230	16.7**	11.3 – 23.9	6,043.31**	
	Interview telephone	19	31,486	28.5**	18.6 – 41.0	3,277.69**	
	Questionnaire	89	104,267	25.1**	20.6 – 30.3	24,522.34**	
	Questionnaire computer	8	24,110	16.7**	7.9 – 32.1	1,310.81**	
Instrument validated							3.23
	No	71	112,163	20.0**	16.0 – 24.8	15,177.78**	
	Yes	81	80,583	26.1**	21.5 – 31.3	19,286.39**	
Sampling procedure							3.37
	Convenience	87	70,843	25.8**	21.2 – 31.0	18,240.81**	
	Modified random	31	60,755	18.8**	13.1 – 26.1	6,308.13**	
	Random	36	59,584	20.2**	14.6 – 27.3	10,570.18**	

*$p < .05$, **$p < .01$; [1]subgroups with $k < 4$ or 'other' categories are excluded from contrasts; [2] for the subset of studies originating from the USA and Canada; [3]differences in totals of *k* are due to the exclusion from the pertinent analysis of studies with missing values; [4]all participants are included in a single category; [5]the sample sizes of Ackard et al. (2002; *n* = 40,002) and Young et al. (2006; *n* = 41,482) were winsorized to 12,500 and 13,500 respectively

asked to report their physical abuse experiences (0 up to 12, 0 up to 18, limited period up to one year; each participant was included in a single category), the type of instrument used for the study (face-to-face interview, telephone interview, paper-and-pencil questionnaire, or computerized questionnaire), whether the instrument used was validated or not, the sampling procedure (convenience, modified randomized, or randomized), and the continuous variables sample size, response rate, number of questions used to establish physical abuse, and year of publication (see Chapter 2 for a similar coding system).

Agreement between the coders for moderators and outcome variables was satisfactory (mean kappa for categorical variables .74, percentage agreement on average 90%; mean intraclass correlations for continuous variables .92).

Meta-Analytic Procedures

The meta-analysis was performed using the Comprehensive Meta-Analysis (CMA) program (Borenstein, Rothstein, & Cohen, 2005). For each study, the proportion of abused children was transformed into a logit event rate effect size and the corresponding standard error was calculated (Lipsey & Wilson, 2001). After the analyses, logits were retransformed into proportions to facilitate interpretation of the results. The outcome was the proportion of children physically abused. Combined effect size analyses were carried out both including and excluding one outlying physical abuse logit event rate (for the China sample in Ross et al., 2005), with similar results. Therefore, results are reported including this outlier. Two outlying sample sizes within the set of self-report studies were winsorized (Ackard & Neumark-Sztainer, 2002 and Young, Hansen, Gibson, & Ryan, 2006).

Significance tests and moderator analyses were performed through random effects models (Borenstein, Hedges, & Rothstein, 2007). Random effects models allow for the possibility that there are random differences between studies that are associated with variations in procedures, measures, or settings that go beyond subject-level sampling error and thus point to different study populations (Lipsey & Wilson, 2001; Hedges & Olkin, 1985). To test the homogeneity of the overall set and specific sets of effect sizes, we computed *Q*-statistics (Borenstein et al., 2005). In addition, we computed 95% confidence intervals (*CI*s), again based on random estimates, around the point estimate of each set of effect sizes. *Q*-statistics and *p*-values were also computed to assess differences between combined effect sizes for specific subsets of studies grouped by moderators. Again, the more conservative random effects model tests were used. Contrasts were only tested when at least two of the subsets consisted of at least four studies (Bakermans-Kranenburg, van IJzendoorn, & Juffer, 2003). For continuous moderators, Fisher's *Z* scores were used in weighted least squares meta-regression analyses.

We used the "trim and fill" method (Duval & Tweedie, 2000a; Duval & Tweedie, 2000b) to calculate the effect of potential publication bias on the outcome of the meta-analysis. Using this method, a funnel plot is constructed of each study's

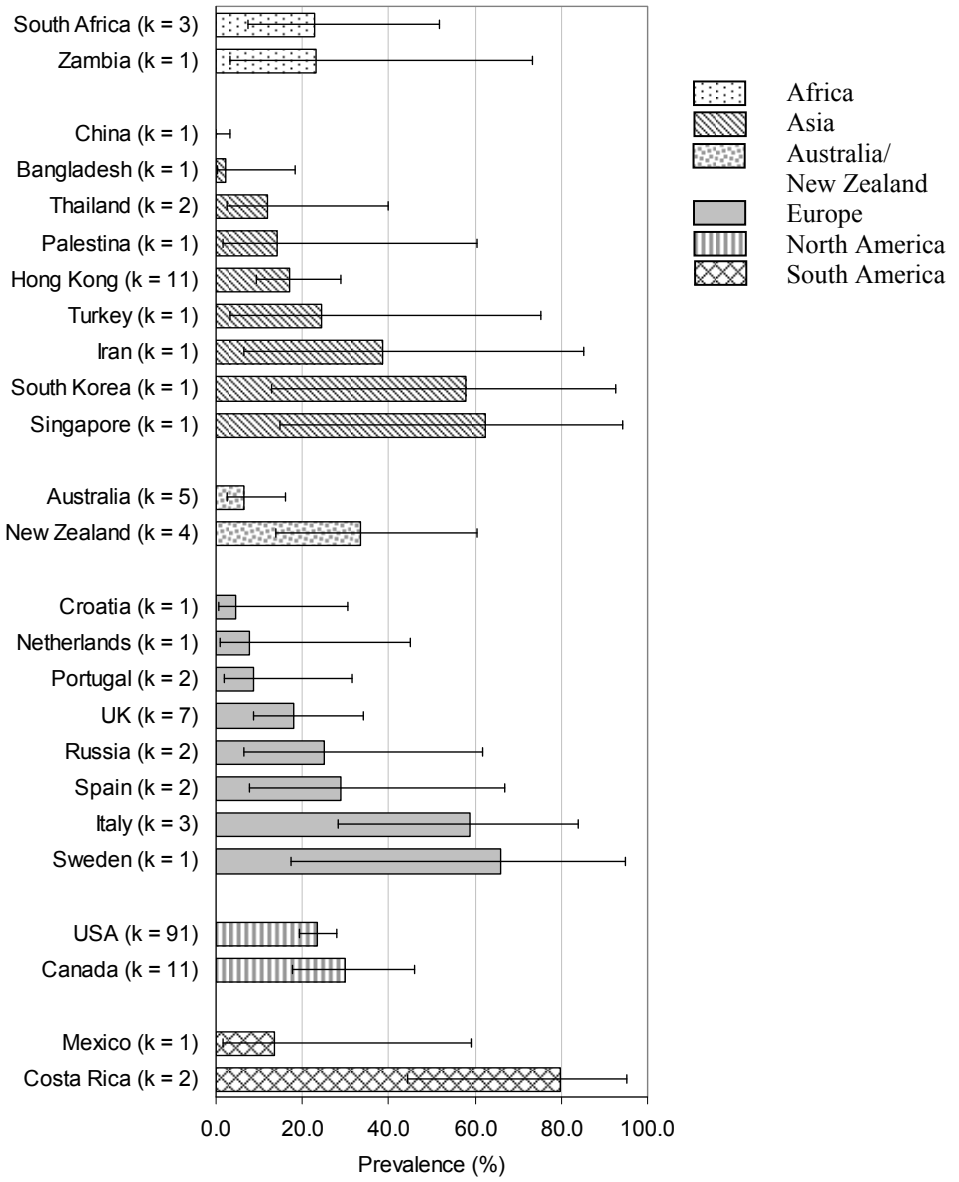


Figure 1. Bar chart of the reported prevalence of physical abuse per country, including 95% confidence intervals and number of studies per country.

effect size against its precision (usually plotted as 1/SE). These plots should be shaped like a funnel if no publication bias is present. However, since smaller studies and studies with non-significant results are less likely to be published, studies in the bottom left-hand corner are often omitted (Duval & Tweedie, 2000b; Sutton, Duval, Tweedie, Abrams, & Jones, 2000). We used the logit of the reported prevalence as effect size. The *k* right-most studies considered to be symmetrically unmatched were trimmed. The trimmed studies can be replaced and their missing counterparts imputed or "filled" as mirror images of the trimmed outcomes. This then allows for the computation of adjusted overall effect sizes and confidence intervals (Gilbody, Song, Eastwood, & Sutton, 2000; Sutton et al., 2000).

Results

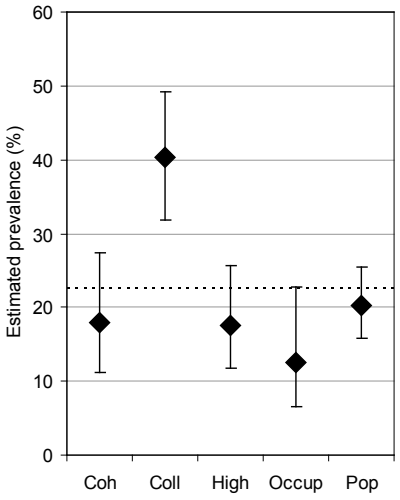
Combined Prevalence

The combined prevalence of physical abuse for the total set of studies (k = 168, N = 9,698,802 was 17.7% (95% *CI*: 13.0% – 23.6%; $p < .01$). The set of studies was heterogeneous, $Q(167)$ = 613,752.27; $p < .01$. We conducted a moderator analysis contrasting self-report studies with studies based on informants and medical evaluation, which was significant, $Q(1)$ = 27.59; $p < .01$. The combined prevalence for informant studies was 0.3% (95% *CI*: 0.0% – 2.0%; $p < .01$; k = 11; N = 9,448,635; $Q[10]$ = 568,212.47; $p < .01$). The combined prevalence for the set of self-report studies was 22.6% (95% *CI*: 19.6% – 26.1%; $p < .01$; k = 157, N = 194,665; $Q[156]$ = 36,444.67; $p < .01$). As the confidence intervals of self-report studies and studies based on informants did not overlap, these sets of studies were treated as representing separate populations of studies. Within the set of informant studies, moderator analyses were not possible due to the small numbers of studies. Therefore, we report the results of the moderator analyses for the set of self-report studies only. The subsets of all moderator analyses remained heterogeneous.

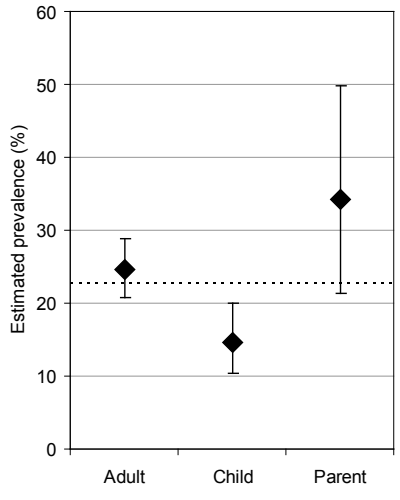
Duvall and Tweedie's (2000a; 2000b) trim and fill method revealed no asymmetry in the funnel plots for self-report studies, implying that publication bias is unlikely.

Sample Characteristics

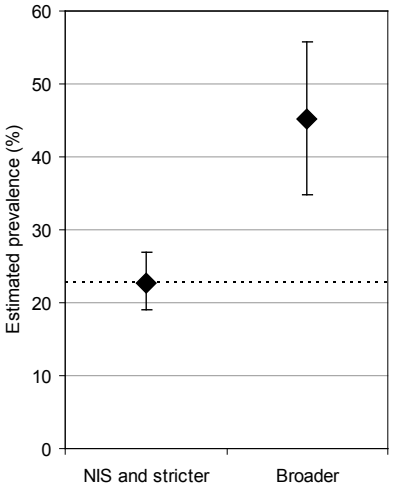
The results of all moderator analyses are reported in Table 1. *Gender* was not a significant moderator, indicating that physical abuse occurs at approximately the same rate for boys and girls. No significant results were found for the *geographical origin* of the sample or for predominant *ethnicity* in the North American samples, nor for the level of *economic development* of the country of origin of the sample. Figure 1 shows the prevalence per country of origin of the samples, which was combined for countries for which more than one study had been included. It should be noted that large differences in the reported prevalence of child physical abuse seem to exist within the continents. Unfortunately, we were not able to test this contention through moderator analyses due to the small number of studies



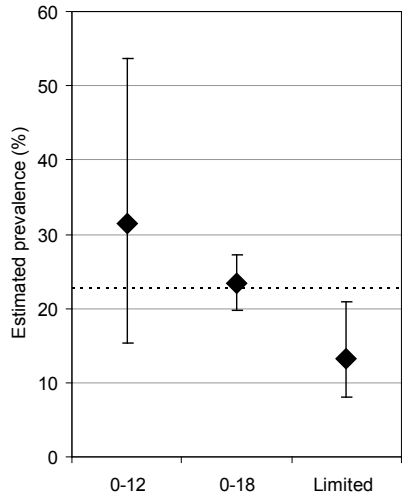
(a) Type of sample[1]



(b) Respondent



(c) Definition of physical abuse



(d) Period of prevalence

Figure 2. The influence on estimated prevalence of (a) the type op sample, (b) the respondent, (c) the definitions of child physical abuse, and (d) the period of prevalence. The dotted lines represent the overall mean prevalence.
[1]Coh = cohorts; Coll = college samples; High = high school samples; Occup = samples originating from a specific occupational group; Pop = population samples

from many countries. These results indicate that the prevalence of physical abuse does not seem to depend on where the sample comes from nor on the predominant ethnicity of the sample.

The combined prevalence significantly differed between the various *types of samples.* Pairwise post-hoc contrasts indicated that the physical abuse prevalence reported for college samples was significantly higher than the prevalence reported for cohort samples, high school samples, samples from specific occupational groups, and population samples. This is shown in Figure 2a. Whether the *respondents* were adults or children reporting on their own abuse experiences or parents reporting on the abuse experiences of their children also significantly influenced the reported prevalence. As can be seen in Figure 2b, children reported a significantly lower prevalence than did adults (about themselves) and parents (about the experiences of their children).

Procedural Moderators

An overview of the moderator analyses is presented in Table 1. The *definition* of physical abuse that was used in studies significantly influenced the reported prevalence. As is shown in Figure 2c, with studies using a definition stricter than or according to NIS-3 (Sedlak et al., 2001) yielded a lower combined prevalence than studies using a definition that was broader than the NIS-3 definition. In addition, differences in prevalence were found based on the *period of prevalence*. Pairwise post-hoc contrasts indicated that the reported prevalence was lower when a limited time period of up to one year was used than when physical abuse experiences were reported between the ages of 0 and18 years (see Figure 2d). No significant results were found for the *type of instrument* that was used, be it face-to-face interviews, telephone interviews, paper-and-pencil questionnaires, or computer questionnaires. The reported prevalence was not significantly influenced by whether studies used *validated* or non-validated instruments, nor did it matter whether the *sampling procedure* was randomized or not.

Meta-regression analyses revealed that neither the *response rate* nor the *sample size* exerted a significant influence on the reported physical abuse prevalence (both slopes = 0.00; z = 1.05 and -0.56 respectively; p = .29 and .58 respectively). The more recently the study was published, the lower the reported physical abuse prevalence (slope = -0.10; z = 4.51; p = 0.00). A higher number of questions was related to a higher reported prevalence (slope = 0.17; z = 7.73; p = 0.00).

Discussion

The global prevalence of self-reported child physical abuse, based on 157 independent samples with a total of 249,549 participants, was estimated to be 22.6% or 226 per 1000 children, with no apparent gender differences. Differences in prevalence rates for child physical abuse were found for four procedural moderators (definition of child physical abuse; period of prevalence; number of

questions; year of publication) and two sample characteristics (type of sample; type of respondent). The highest combined prevalence rates were found in studies using a definition of child physical abuse that was broader than the definition used by NIS-3 (Sedlak, 2001), studies measuring physical abuse during a period of 0-18 years, studies using college samples, and studies in which adults were the respondents. Moreover, the prevalence of child physical abuse increased when more questions on child physical abuse were used and decreased with more recent years of publication. As is indicated by the persistent heterogeneity of subsets of moderator analyses, the methodological factors that were investigated did, however, not fully explain the large variation in prevalence rates reported in individual studies.

Geographical Origin of the Samples and Ethnicity

No differences in the reported prevalence of physical abuse existed between different geographical areas of origin of the samples. The null-effect of geographical area of origin of samples was underlined by the absence of differences in reported prevalence between ethnicities within North America. The lack of differences in the prevalence of child physical abuse between continents might have several causes. Of course this finding may reflect an absence of systematic cultural-geographical differences in the occurrence of child physical abuse. In fact, the large variability of prevalence rates within the continents may have overshadowed differences between continents and between ethnicities (see Figure 1). The predominance of intra-cultural differences over inter-cultural differences has been found in other domains of child development as well (e.g., Van IJzendoorn & Kroonenberg, 1988).

In addition, the influence of the geographical area may have been confounded by other sample characteristics and procedural factors with a significant influence on the prevalence of physical abuse. For example, the high prevalence in South America could be partly explained by the use of only college samples and by a definition of physical abuse that was broader than NIS-3 (Sedlak, 2001) in all three South American studies, two methodological factors that were related to a higher prevalence of physical abuse in moderator analyses. This may have resulted in an overestimation of the prevalence of physical abuse in South America. The opposite argument can be made for Asia. Asian studies used mostly children as respondents, a limited time-period of prevalence for the assessment of physical abuse, and a small number of questions. These factors were all associated with a low prevalence of child physical abuse and might have contributed to an underestimation of the prevalence in Asia.

The large difference between Asian samples and Asian-American samples may be explained in a similar fashion. The three Asian-American studies used college samples, used adults as respondents, used a definition of physical abuse that was broader than NIS-3, measured physical abuse during a period of 0-18 years, and

used a large number of questions; all factors that were related to a high prevalence of physical abuse in moderator analyses.

Taken together, these findings emphasize the absence of cultural-geographical differences in the prevalence of physical abuse as indicated by the lack of influence on the prevalence of both ethnicity and continent of origin of the samples. In order to disentangle the influence of culture and procedural factors on the prevalence of child physical abuse, we recommend that future cross-cultural studies use similar or systematically differing methods, procedures, and instruments to measure the prevalence of child physical abuse in similar samples originating from different cultures. When conducting such studies, an effort should be made not to confound culture (defined as the shared values, behaviors, beliefs, norms, traditions, customs, and ideas of subgroups of individuals; Elliott & Urquiza, 2006), ethnicity (defined as membership in a group based on common ancestry, heritage, culture, or history; Elliott & Urquiza, 2006), and level of economic resources (Bakermans-Kranenburg, Van IJzendoorn & Kroonenberg, 2004). Regrettably, the lack of information about the samples' SES in many available studies on child physical abuse prevented us from investigating the influence of SES.

Conclusion

The current meta-analysis shows that child physical abuse is a widespread, global phenomenon, affecting the lives of many children all over the world. No country or continent seems to be exempted from the rule that children are way too often victims of family violence. This is in sharp contrast with the United Nation's Convention on the Rights of the Child, which explicitly states that children should be protected from any type of maltreatment. The need for more cross-cultural research is especially salient in Africa and South America, as these parts of the world lag behind when it comes to investigating (the prevalence of) child physical abuse.

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4

The universality of childhood emotional abuse: A meta-analysis of worldwide prevalence

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Abstract

This comprehensive meta-analysis combined prevalence figures of child emotional abuse reported in 29 studies, including 46 independent samples with a total of 7,082,279 participants. The overall estimated prevalence was 3/1,000 for studies using informants and 363/1,000 for studies using self-report measures of child emotional abuse. Procedural factors seem to exert a greater influence on the prevalence of childhood emotional abuse than sample characteristics and definitional issues, without fully explaining the vast variation of prevalence rates reported in individual studies. We conclude that child emotional abuse is a universal problem affecting the lives of millions of children all over the world, which is in sharp contrast with the United Nation's Convention on the Rights of the Child.

Introduction

Until recently, limited attention has been paid to childhood emotional abuse as a social problem. Research of childhood emotional abuse has lagged behind research of childhood physical and sexual abuse (Egeland, 2009; Wright, 2007). One of the reasons for this lagging behind is that emotional abuse has not been recognized as a distinct form of child maltreatment until the last decades (Egeland, 2009; Glaser, 2002; Wright, 2007). Recent research has shown not only that emotional abuse is a widespread phenomenon but also that it has deleterious effects on children's development (Iwaniec, Larkin, & Higgins, 2006). Childhood emotional abuse has been found to be associated with a variety of adverse outcomes such as depressive symptoms and feelings of hopelessness (Courtney, Kushwaha, & Johnson, 2008), lower self-esteem, less satisfaction with life and a diminished sense of social support (Festinger & Baker, 2010), insecure adult attachment style (Riggs & Kaminski, 2010), neurophysiological changes in the stress response systems (Carpenter, Tyrka, Ross, Khoury, Anderson, & Price, 2000; Yates, 2007), reduced prefrontal cortex volume (Van Harmelen et al., 2010), bipolar disorder (Etain et al., 2010), symptoms of borderline personality disorder, anxiety disorder, oppositional defiant disorder, conduct disorder, and delinquent behaviors (Gratz, Latzman, Tull, Reynolds, & Lejuez, 2011), and externalizing behavior, diminished resiliency, and ego undercontrol (Manly, Kim, Rogosch, & Cicchetti, 2001).

It is unclear however how often childhood emotional abuse occurs. Prevalence rates in primary self-report studies range from 0.07% (Raiha & Soma, 1997) to 93.0% (Meston, Heiman, Trapnell & Carlin, 1999). This vast variation underlines the need for the current meta-analysis that aims to provide a synthesized prevalence rate of emotional abuse and to search for determinants of the variation in prevalence rates such as definitional issues, procedural factors, and sample characteristics.

Definitional Issues

In addition to the late recognition of emotional abuse as a separate form of abuse, another reason for the late startup of childhood emotional abuse research is the fact that research was hindered by definitional issues (Glaser, 2002; Egeland, 2009). The nature of emotional abuse is different from the nature of other types of abuse. Whereas physical and sexual abuse might be limited to an isolated incident, emotional abuse implies a sustained pattern of maladaptive interaction with the caregiver (Glaser, 2002). Emotional abuse has been defined by the Consultation on Child Abuse Prevention (World Health Organization [WHO], 1999) as including

> "… the failure to provide a developmentally appropriate, supportive environment, including the availability of a primary attachment figure, so

> that the child can develop a stable and full range of emotional and social competencies commensurate with her or his personal potentials and in the context of the society in which the child dwells. There may also be acts towards the child that cause or have a high probability of causing harm to the child's health or physical, mental, spiritual, moral or social development. These acts must be reasonably within the control of the parent or person in a relationship of responsibility, trust or power. Acts include restriction of movement, patterns of belittling, denigrating, scapegoating, threatening, scaring, discriminating, ridiculing or other non-physical forms of hostile or rejecting treatment." (p. 15)

Even though the first part of the WHO-definition might better fit emotional neglect than emotional abuse, such a comprehensive definition is a veritable challenge for the assessment of emotional abuse for research purposes. This difficulty is reflected in the various measurements of childhood emotional abuse that were used in the set of studies included in our meta-analysis, ranging from the use of a single question about verbal abuse (e.g., "How often did a parent or adult living in your home swear at you, insult you, or put you down?" used by Young, Hansen, Gibson, & Ryan, 2006) to the use of more comprehensive instruments (e.g., the 14-item Child Maltreatment Questionnaire used by Madu, 2001). One might expect that more comprehensive operational definitions of emotional abuse yield higher prevalence rates compared to narrower ones, which might explain some of the variability of prevalence rates. In our meta-analysis, we investigated the influence of studies' operational definitions of emotional abuse on the prevalence rate by comparing the studies' operational definitions to the definition used in the third National Incidence Study (NIS-3, Sedlak, 2001; see Appendix A), permitting a comparison with a standard that reflects the Consultation on Child Abuse Prevention's definition of emotional abuse (WHO, 1999) rather well.

Procedural Factors

The reported prevalence of childhood emotional abuse might be influenced by whether self-report measures or reports by professionals are used to establish emotional abuse. Meta-analyses of other types of childhood abuse have shown that the self-reported prevalence is by far higher than the prevalence reported by informants (Chapters 2 and 3).

The number of questions used to establish emotional abuse might influence the reported prevalence. Multiple questions may lead to a higher reported prevalence than a single question because they may include more specific information on emotional abuse and more aspects of emotional abuse compared to a single question. In this meta-analysis, the number of questions used to investigate childhood emotional abuse ranged from one (e.g., Jirapramukpitak, Prince, & Harpham, 2005) to 20 (Khamis, 2000). The sampling method may also influence

the reported prevalence of emotional abuse, with no clear indications in the emotional abuse literature about the nature of such an influence. Clues as to what to expect come from research of other types of abuse. A meta-analysis on child sexual abuse revealed that the combined prevalence for male convenience samples was approximately twice the combined prevalence for male randomized samples (Chapter 2). This difference was even more pronounced in a meta-analysis on childhood physical neglect (Chapter 5). Other areas of research have also shown that convenience sampling can lead to biased results compared to randomized sampling (Barel, Van IJzendoorn, Sagi-Schwartz, & Bakermans-Kranenburg, 2010).

Sample Characteristics

Gender does not seem to have a major influence on the reported prevalence (Iwaniec, Larkin, & Higgins, 2006), even though some studies find that girls are more often the victims of childhood emotional abuse than boys (e.g., Scher, Forde, McQuaid, & Stein, 2004).

Further, the geographical origin of samples might influence the prevalence of childhood emotional abuse. Not much cross-cultural research has been carried out in the field of emotional abuse, so the basis for hypotheses about possible differences in the occurrence of emotional abuse in various countries or continents is weak. Differences in cultural values and family systems might be underlying differences in the occurrence of childhood emotional abuse (Meston et al., 1999). A broad cultural distinction can be made between collectivism, found in many Eastern areas, and individualism, found in many Western areas (Hofstede, 2001). In collectivist cultures an emphasis is placed on social and familial harmony and on interdependence. This might result in the more frequent use by parents of emotional discipline strategies such as emphasizing the embarrassment felt by other family members when rules are broken or the induction of guilt and shame. In more extreme forms, these discipline strategies could be regarded as emotionally abusive. On the other hand, the collectivist value of interdependence could prevent people from disclosing any type of abuse with the goal of preventing shame to the family (Elliott & Urquiza, 2006).

The Current Study

The current meta-analysis aims to provide an estimate of the prevalence of childhood emotional abuse by integrating prevalence figures from 29 publications, covering reports on the prevalence of childhood emotional abuse in 46 samples, including 7,082,279 participants. We attempt to unravel the substantial variation in prevalence figures reported in primary studies by analyzing the effects of definitional issues, procedural factors, and sample characteristics on combined prevalence rates. We expected combined rates to be similar for women and men, and we expected rates to be higher in studies using convenience samples compared

to randomized samples. With respect to the definitional issues, procedural factors, and sample characteristics, analyses were exploratory due to the absence of expectations derived from existing literature.

Method

Literature Search

Three search methods were used to identify eligible studies, published between January 1980 and January 2008. First, we searched the electronic databases PubMed, Online Contents, Picarta, ERIC, PsychInfo, and Web of Science for empirical articles using the terms *prevalence* and/or *incidence* combined with one of the following terms: *(child*) (emotional) maltreatment, (emotional) abuse,* and *(emotional) victimization*. Studies that were found with the search terms *(child*) (sexual / physical / emotional) maltreatment, (sexual / physical / emotional) abuse,* and *victimization* were also included when the prevalence of emotional abuse was reported. Second, we electronically searched the specialized journals *Child Abuse and Neglect* and *Child Maltreatment* with the same terms as mentioned above. Third, the references of the papers, dissertations, and book chapters that we found were searched for relevant studies. Studies were included if the prevalence of emotional abuse was reported (a) in terms of proportions at the child level (excluding studies only reporting estimates at the family level) (b) for victims under the age of 18 years in (c) non-clinical samples, and (d) if sufficient data were provided to determine this proportion as well as the sample size.

If different publications reported on the same sample or on overlapping samples, the publication providing the maximum of information was included in the meta-analysis. Thus, the independence of samples and the inclusion of every participant only once in the meta-analysis were ascertained. When possible and necessary, the coding form for the study was supplemented with information from the other – excluded – publication(s) on the same sample. When a publication reported the prevalence of emotional abuse separately for more than one sample, for example for male and female participants or for participants of different ethnicities, these sub-samples were treated as independent studies. This procedure yielded 29 publications, published from 1996 to 2008, covering reports on the prevalence of emotional abuse in 46 samples, including 7,082,279 participants.

Data Extraction

The *definition* of emotional abuse used by studies was compared to the definition used in the third National Incidence Study (Sedlak, 2001; see Appendix A), resulting in two categories (stricter than or according to NIS *versus* broader than NIS). *Procedural moderators* included the following variables: the type of evidence used to determine emotional abuse (self-report - scored also when parents reported on the abuse experiences of their children - *versus* informant, based on clinical judgment by professionals), the period of prevalence for which respondents were

asked to report their emotional abuse experiences (0 up to 12, 0 up to 18, limited period up to one year; each participant was included in a single category), the type of instrument used for the study (face-to-face interview, telephone interview, paper-and-pencil questionnaire, or computerized questionnaire), whether the instrument used was validated or not, the sampling procedure (convenience, modified randomized, or randomized), and the continuous variables sample size, response rate, number of questions used to establish emotional abuse, and year of publication (see Chapter 2 for a similar coding system).

S*ample characteristics* comprised gender (male, female, mixed), the continent from which the sample originated (Africa, Asia, Australia and New Zealand, Europe, North America, South America), the predominant ethnicity of the sample for the subset of studies originating from North America (African American, Asian, Caucasian, or Hispanic), the level of economic development of the sample's country of origin (high-resource or low-resource according to the World Economic Outlook Database [International Monetary Fund, 2010]), the type of sample (cohorts, college samples, high school samples, samples originating from a specific occupational group, and populations), and in case of self-report who the respondent was (adults *versus* children). Agreement between the coders for moderators and outcome variables was satisfactory (mean kappa for categorical variables .74, percentage agreement on average 90%; mean intraclass correlations for continuous variables .92).

Meta-Analytic Procedures

The meta-analysis was performed using the Comprehensive Meta-Analysis (CMA) program (Borenstein, Rothstein, & Cohen, 2005). For each study, the proportion of emotionally abused children was transformed into a logit event rate effect size and the corresponding standard error was calculated (Lipsey & Wilson, 2001). After the analyses, logits were retransformed into proportions to facilitate interpretation of the results. The outcome was the proportion of children emotionally abused. There were no outlying effect sizes. One sample size within the set of self-report studies was an outlying value (Young, Hansen, Gibson, & Ryan, 2006). Combined effect size analyses were carried out both including the original sample size and with a winsorized sample size, with similar results. Therefore, results are reported with the original sample size.

Significance tests and moderator analyses were performed through random effects models (Borenstein, Hedges, & Rothstein, 2007). Random effects models allow for the possibility that there are random differences between studies that are associated with variations in procedures, measures, or settings that go beyond subject-level sampling error and thus point to different study populations (Lipsey & Wilson, 2001; Hedges & Olkin, 1985). To test the homogeneity of the overall set and specific sets of effect sizes, we computed *Q*-statistics (Borenstein et al., 2005).

Table 1. *Results of moderator analyses for self-reported emotional abuse: number of studies and participants, and combined prevalence including 95% confidence intervals (*CI*).*

		k[3]	*N*	Combined prevalence (%)	95% *CI*	*Q* heterogeneity	Contrast *Q*[1]
Overall estimate		42	76,586	36.3**	28.1 – 45.4	11,680.06**	
Sample characteristics							
Gender							0.27
	Female	18	15,485	38.4	26.1 – 52.4	2,625.06**	
	Male	14	52,575	36.3	23.0 – 52.1	3,155.58**	
	Mixed	10	8,526	32.7	18.4 – 51.1	2,802.84**	
Continent							1.27
	Africa	4	1,821	46.7**	22.2 – 73.0	311.60**	
	Asia	7	3,586	41.6**	23.3 – 62.5	856.31**	
	Australia	1	1,296	11.3	1.3 – 54.5	0.00	
	Europe	6	8,072	29.2**	14.1 – 50.8	1,945.93**	
	North America	24	61,811	36.5**	26.6 – 47.6	4,962.01**	
Ethnicity[2]							2.39
	African American	4	1,768	45.0	24.7 – 67.0	15.63**	
	Asian	2	470	90.7**	72.4 – 97.3	3.10	
	Caucasian	16	59,227	26.8**	18.8 – 36.6	3,411.25**	
	Hispanic	1	112	27.0	5.5 – 70.3	0.00	
Economic development							0.98
	High-resource	32	69,414	34.0**	25.7 – 43.5	7,496.79**	
	Low-resource	10	7,172	43.9	27.6 – 61.5	1,885.99**	
Type of sample							16.15**
	Cohort	6	4,406	45.9	24.6 – 68.9	764.23**	
	College	7	2,149	72.4*	51.9 – 86.5	456.55**	
	High school	6	3,106	40.6	20.7 – 64.2	825.78**	
	Occupational group	1	41,482	15.4	1.7 – 65.3	0.00	
	Population	18	15,392	23.6**	15.1 – 34.9	2,946.08**	
Respondent							1.56
	Adult	30	67,590	31.9**	23.9 – 41.0	5,968.06**	
	Child	11	7,996	43.2	28.4 – 59.3	2,455.03**	
Procedural moderators							0.13
Definition							
	Broader than NIS	4	4,417	34.6	34.6 – 63.9	1,322.34**	
	NIS or stricter	33	77,066	40.1	30.5 – 50.5	9,116.42**	
Period of prevalence[4]							n/a
	Limited period up to 1 year	2	375	62.1	26.7 – 88.0	0.27	
	0-12	2	2,869	56.0	22.3 – 84.9	0.00	
	0-18	34	69,543	35.0**	27.2 – 43.6	7,333.24**	
Type of instrument							2.38
	Interview face-to-face	5	3,040	44.2	20.6 – 70.7	921.21**	
	Interview telephone	6	3,741	28.9	12.8 – 53.0	499.58**	
	Questionnaire	23	62,540	40.1	28.4 – 53.0	7,428.19**	
	Questionnaire computer	4	5,738	21.8*	7.4 – 49.2	1,151.68**	
Instrument validated							2.32
	No	18	67,837	28.7**	18.5 – 41.6	8,966.57**	
	Yes	23	8,392	42.2	30.5 – 54.8	1,702.06**	
Sampling procedure							7.80*
	Convenience	25	60,035	40.3	29.3 – 52.3	6,263.92**	
	Modified random	7	4,967	52.9	31.1 – 73.7	1,487.49**	
	Random	10	11,584	19.0**	9.8 – 33.4	1,863.59**	

*$p < .05$, **$p < .01$; [1]subgroups with $k < 4$ or 'other' categories are excluded from contrasts; [2] for the subset of studies originating from the USA and Canada; [3]differences in totals of *k* are due to the exclusion from the pertinent analysis of studies with missing values; [4]all participants are included in a single category

In addition, we computed 95% confidence intervals (*CI*s), again based on random estimates, around the point estimate of each set of effect sizes. *Q*-statistics and *p*-values were also computed to assess differences between combined effect sizes for specific subsets of studies grouped by moderators. Again, the more conservative random effects model tests were used. Contrasts were only tested if at least two of the subsets consisted of at least four studies (Bakermans-Kranenburg, van IJzendoorn, & Juffer, 2003). For continuous moderators, Fisher's *Z* scores were used in weighted least squares meta-regression analyses. In addition, we performed a cumulative meta-analysis (Borenstein, Hedges, Higgins, & Rothstein, 2009) in order to document the change in effect sizes across time. In a cumulative meta-analysis, each analysis in the sequence incorporates one additional study so that publication time is accounted for.

We used the "trim and fill" method (Duval & Tweedie, 2000a; Duval & Tweedie, 2000b) to calculate the effect of potential publication bias on the outcome of the meta-analysis. Using this method, a funnel plot is constructed of each study's effect size against its precision (usually plotted as 1/SE). These plots should be shaped like a funnel if no publication bias is present. However, since smaller studies and studies with non-significant results are less likely to be published, studies in the bottom left-hand corner are often omitted (Duval & Tweedie, 2000b; Sutton, Duval, Tweedie, Abrams, & Jones, 2000). We used the logit of the reported prevalence as effect size. The *k* right-most studies considered to be symmetrically unmatched were trimmed. The trimmed studies are replaced and their missing counterparts imputed or "filled" as mirror images of the trimmed outcomes. This then allows for the computation of adjusted overall effect sizes and confidence intervals (Gilbody, Song, Eastwood, & Sutton, 2000; Sutton et al., 2000).

Results

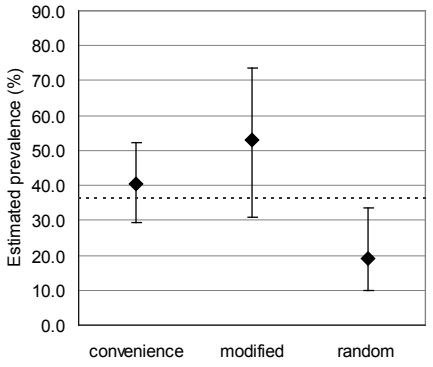
Combined Prevalence

The combined prevalence of emotional abuse for the total set of studies ($k = 46$, $N = 7{,}082{,}279$) was 26.7% (95% *CI*: 14.4% – 44.2%; $p < .05$). The set of studies was heterogeneous, $Q(45) = 145{,}674.67$; $p < .01$. We conducted a moderator analysis contrasting self-report studies with studies based on informants, which was significant, $Q(1) = 75.17$; $p < .01$. The combined prevalence for informant studies was 0.3% (95% *CI*: 0.2% – 0.7%; $p < .01$; $k = 4$; $N = 7{,}005{,}693$; $Q[3] = 1{,}654.26$; $p < .01$). The combined prevalence for the set of self-report studies was 36.3% (95% *CI*: 28.1% – 45.4%; $p < .01$; $k = 42$, $N = 76{,}586$; $Q[41] = 11{,}680.06$; $p < .01$). As the confidence intervals of self-report studies and studies based on informants did not overlap, these sets of studies should be considered to be representing separate populations of studies and thus were treated as such. Within the set of informant studies, moderator analyses were not possible due to the small numbers of studies. Therefore, we report the results of the moderator analyses for the set of self-report studies only.

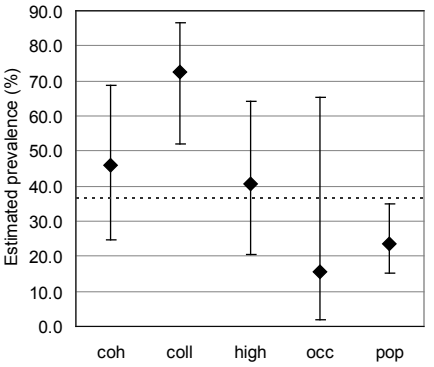
Duvall and Tweedie's (2000a; 2000b) trim and fill method revealed no asymmetry in the funnel plots for self-report studies, implying that publication bias is unlikely.

Definitional Issues and Procedural Factors

The results of all moderator analyses are reported in Table 1. Studies using a *definition* stricter than or according to NIS-3 (Sedlak et al., 2001) and studies using a definition that was broader than the NIS-3 definition yielded similar prevalence rates for emotional abuse. No significant results were found for the *type of instrument* that was used, be it face-to-face interviews, telephone interviews, paper-and-pencil questionnaires, or computer questionnaires. The reported prevalence was not significantly influenced by whether studies used *validated* or non-validated instruments. The *sampling procedure* significantly influenced the reported prevalence of emotional abuse. Pairwise post-hoc analyses revealed that studies using a fully randomized sample yielded lower prevalence rates (19.0%; 95% *CI*: 9.8% – 33.4%; $k = 10$; $n = 11{,}584$) than studies that used modified randomized samples (52.9%; 95% *CI*: 31.1% – 73.7%; $k = 7$; $n = 4{,}967$) or convenience samples (40.3%; 95% *CI*: 29.3% – 52.3%; $k = 25$; $n = 60{,}035$), see Figure 1(a).



(a) Sampling procedure



(b) Type of sample[1]

Figure 1. The influence on estimated prevalence of (a) the sampling procedure and (b) the type of sample. The dotted lines represent the overall mean prevalence.
[1]coh = cohorts; coll = college samples; high = high school samples; occ = samples originating from a specific occupational group; pop = population samples

Meta-regression analyses revealed that neither the *number of questions* nor the *sample size* exerted a significant influence on the reported emotional abuse prevalence (slopes = 0.10 and 0.00; $z = 1.57$ and -1.12; $p = .12$ and .26, respectively). A higher *response rate* was related to a higher reported prevalence (slope = 0.05; $z = 3.73$; $p < .01$). The more recently the study was published, the lower the reported emotional abuse prevalence (slope = -0.27; $z = 4.13$; $p < .01$). A cumulative meta-analysis confirmed this association between year of publication and effect size (see Figure 2)

Sample Characteristics

Gender was not a significant moderator, indicating that emotional abuse occurs at approximately the same rate for boys and girls (Table 1). No significant results were found for the *geographical origin* of the sample or for the predominant *ethnicity* of the North American samples, nor for the level of *economic development* of the country of origin of samples indicating that the prevalence of emotional abuse does not seem to depend on where the sample comes from nor on the predominant ethnicity of the sample.

The combined prevalence significantly differed between the various *types of samples*. Pairwise post-hoc contrasts indicated that the emotional abuse prevalence reported for college samples (72.4%; 95% *CI*: 51.9% – 86.5%; $k = 7$; $n = 2{,}149$) was significantly higher than the prevalence reported for population samples (23.6%; 95% *CI*: 15.1% – 34.9%; $k = 18$; $n = 15{,}392$), which is shown in Figure 1(b). The reported prevalence of emotional abuse was not influenced by whether the *respondents* were adults or children.

Discussion

In the current meta-analysis, the self-reported prevalence of childhood emotional abuse was estimated at 36.3% or 363 per 1,000 children, whereas the prevalence based on informant studies was 0.3%, or 3 per 1,000 children. The absence of gender differences and differences between continents indicate that childhood emotional abuse is a universal phenomenon. Procedural factors, specifically the type of sample, the sampling procedure, the year of publication, and the response rate, seem to exert a greater influence on the prevalence of childhood emotional abuse than sample characteristics and definitional issues, however without fully explaining the vast variation of prevalence rates reported in individual studies, as is indicated by the persistent heterogeneity in the subsets of moderator analyses.

Definitional Issues

Surprisingly and contrary to our expectations, studies using broad operational definitions of emotional abuse yielded a similar combined prevalence as studies using narrower definitions. The narrower definitions that were used by studies included in our meta-analysis mainly pertained to verbal abuse, which is only

Study name	Gender	Cumulative prevalence (%)	95% CI Low	95% CI High	Forest plot
Tang (1996)	female	63.4	57.1	69.3	
Tang (1996)	male	62.4	57.4	67.2	
Straus et al. (1998)	mixed	74.3	46.1	90.7	
Benedict et al. (1999)	female	69.4	44.2	86.7	
Meston et al. (1999) Asian	female	74.1	53.2	87.8	
Meston et al. (1999) Asian	male	78.5	60.6	89.7	
Meston et al. (1999) non-Asian	female	77.4	62.9	87.3	
Meston et al. (1999) non-Asian	male	77.8	65.1	86.8	
Duncan (2000)	mixed	69.9	52.6	82.9	
Khamis (2000)	mixed	64.3	40.8	82.5	
Thompson et al. (2000)	female	61.7	39.8	79.7	
Brooker et al. (2001)	female	61.3	44.1	76.0	
Brooker et al. (2001)	male	60.9	46.7	73.4	
Madu (2001)	female	61.5	48.2	73.3	
Madu (2001)	male	62.3	49.7	73.5	
Corlisset al. (2002)	female	60.8	49.0	71.4	
Corlisset al. (2002)	male	59.3	48.4	69.4	
Afifi et al. (2003)	mixed	57.0	46.1	67.3	
Clemmons et al. (2003)	female	55.4	44.8	65.6	
Madu (2003)	mixed	53.9	43.5	63.9	
Chapman et al. (2004)	female	51.5	39.6	63.3	
Chapman et al. (2004)	male	48.5	35.9	61.3	
Duran et al. (2004)	female	48.8	36.5	61.2	
Menard et al. (2004) Afr Am	female	48.6	36.9	60.5	
Menard et al. (2004) Afr Am	male	48.6	37.3	60.1	
Menard et al. (2004) Caucasian	female	48.2	37.2	59.3	
Menard et al. (2004) Caucasian	male	48.0	37.3	58.9	
Scher et al. (2004_)	female	46.5	36.1	57.2	
Scher et al. (2004)	male	44.7	34.5	55.3	
Akyuz et al. (2005)	female	43.8	34.0	54.1	
Finkelhor et al. (2005)	female	42.3	32.7	52.5	
Finkelhor et al. (2005)	male	40.8	31.5	50.9	
Jirapramukpitak et al. (2005)	female	40.5	31.4	50.3	
Jirapramukpitaket al. (2005)	male	40.3	31.4	50.0	
May-Chahal et al. (2005)	female	38.9	30.1	48.5	
May-Chahal et al. (2005)	male	37.1	28.5	46.7	
Cohen et al. (2006) Australia	mixed	36.2	27.7	45.5	
Cohen et al. (2006) Europe	mixed	35.5	27.3	44.7	
Cohen et al. (2006) USA	mixed	34.9	26.8	43.8	
Stephenson et al. (2006)	mixed	35.8	27.5	45.1	
Young et al. (2006)	male	35.2	27.7	43.6	
Aberle et al. (2007)	mixed	36.3	28.1	45.4	
Total		36.3	28.1	45.4	

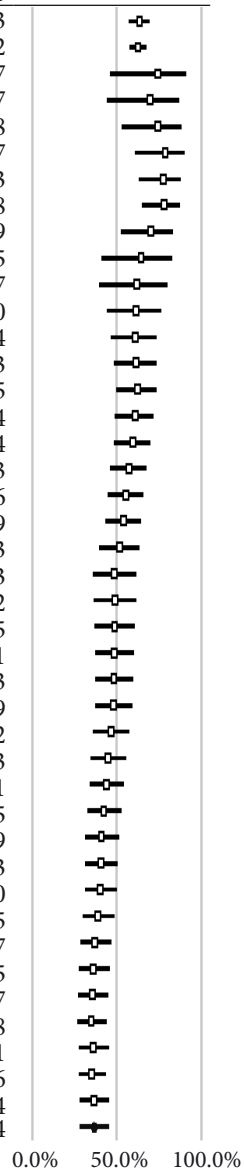


Figure 2. Statistics and forest plot for self-report studies participating in the cumulative meta-analysis.

one aspect of childhood emotional abuse. In addition to verbal abuse the broader definitions included several other aspects of emotional abuse such as close confinement. Some studies using broader definitions included forms of abuse that we would consider emotional neglect rather than emotional abuse (i.e., neglect of children when they are sick [Afifi, El-Lawindi, Ahmed, & Basiy, 2003] or inadequate nurturance and affection [Khamis, 2000]). It is possible that verbal abuse is the most prevalent facet of emotional abuse, always occurring when other and rarer forms of emotional abuse take place. This might explain the absence of differences in the prevalence of emotional abuse between studies using more inclusive and more exclusive operational definitions. In that case, verbal abuse could serve as an indicator of childhood emotional abuse as a whole, making the recognition and study of emotional abuse substantially easier.

We recommend testing this hypothesis in future research by using an instrument with multiple behaviorally specific questions that target all the aspects of childhood emotional abuse that are included in a comprehensive definition, allowing an investigation of the co-occurrence of different aspects. If indeed it proves to be sufficient to use verbal abuse as an indicator of emotional abuse, this could also explain the lack of association of the prevalence with the number of questions used to establish childhood emotional abuse since in our meta-analysis the average number of questions used with broad definitions was higher than the number of questions used with narrower definitions.

Procedural Factors

The difference in prevalence of childhood emotional abuse between studies using informants (3 children per 1000) and studies using self-report (363 children per 1000) is striking. Large differences have also been found in meta-analyses on the global prevalence of other forms of child abuse (Chapter 2 and 3). The large gap can be explained by the different levels of the proverbial iceberg of child abuse that informant and self-report studies report on. The five levels of the iceberg are: (1) those children who are reported to the police as having been chronically abused or neglected; (2) those children who are reported to child protection agencies and agreed as being in need of protection i.e. registered; (3) those children who are reported to child protection agencies by other professionals such as doctors and health personnel and by the general public; (4) abused or neglected children who are recognized as such by neighbors or relatives but are not brought to the attention of a professional agency; (5) abused or neglected children who have not been recognized as such by anyone (Creighton, 2002).

The informant studies included in our meta-analysis reported on the first to the third level whereas the self-report studies mainly reported on the fifth level. It seems safe to say that self-report studies reveal more of the iceberg than informant studies can, even though the experiences of some victims of child abuse may have been reported to professionals. However, it should also be recognized that the

retrospective recollection used in many self-report studies, compared to reports to the police or child protection agencies, induces more uncertainty about whether reported experiences actually took place (Goldman & Padayachi, 2000) and may lead to an overestimation of the prevalence of child abuse. Moreover, in self-report measures, isolated incidents are often labeled as abuse. This is particularly salient in research on childhood emotional abuse because a sustained pattern of maladaptive interaction with the caregiver is a necessary condition for emotional abuse (Glaser, 2002).

The combined prevalence of emotional abuse was lower in randomized samples than in convenience samples, and lower in population samples than in college samples, reflecting influences of sampling method and type of sample that have also been demonstrated in meta-analyses on other types of child maltreatment (Chapter 2, 3, and 5). Both the randomization of samples and the use of population samples are regarded as characteristics of sound research methodology and we might therefore conclude that the lower-range prevalence rates of childhood emotional abuse are more representative of the prevalence rate in the population. However, in the current meta-analysis all randomized samples were population samples which might have lead to a 'double hazard' for low prevalence rates in these sets of studies.

The negative association of year of publication with prevalence rate can be seen as illustrative of the winner's curse. This phenomenon originated from economics but is also used in genetic studies to describe the somewhat inflated effect sizes in first studies investigating the effect of a specific gene compared to the real (replicated) effect size of the gene (Ioannidis, 2003; Li & He, 2006). The cumulative meta-analysis that we carried out with studies placed in order of publication-year clearly shows that the cumulative prevalence of childhood emotional abuse diminishes (though remains substantial) over time.

Sample Characteristics

The prevalence of childhood emotional abuse was neither influenced by the continent of origin of the samples, nor by the predominant ethnicity of samples from North America, indicating that emotional abuse is a global problem. It is also possible that the within-continent variability is greater than the between-continent variability (Sebre et al., 2004; Chapters 3 and 5) making it impossible to detect differences between continents. The meta-analytical heterogeneity of the prevalence of emotional abuse within the continents points in this direction, as do the results of cross-cultural studies in other domains of child development (e.g., Van IJzendoorn & Kroonenberg, 1988).

Interestingly, the prevalence of childhood emotional abuse reported for the two Asian-American samples was more than twice the combined prevalence of the seven Asian samples. In light of this finding, one could speculate that the prevalence we found in Asia is an underestimation. Emotional discipline

strategies, in extreme forms leading to emotional abuse, may be frequently used in the collectivist Asian culture but might not be reported as abuse by the victims because the cultural normativeness of these strategies prevents victims from perceiving them as abusive (Lansford et al., 2010). Moreover, even when children perceive themselves as victims of abuse, they may not report the abuse because of the shame inflicted on the family by such a report. Children of Asian immigrants who are brought up in North America might perceive their experiences with harsh emotional discipline as emotional abuse because of the influence of the prevailing Western more individualistic culture. This could underlie the rather high prevalence we found for Asian-American samples. Of course this conclusion is highly speculative because our meta-analysis included only two Asian-American samples originating from the same publication (Meston et al, 1999).

For firmer conclusions about the existence or absence of cross-cultural differences in the prevalence of childhood emotional abuse we need more studies from other parts of the world than North America, and more North American studies examining cross-ethnic differences. It would be helpful if these studies used similar designs, procedures, and instruments to assure the comparability between prevalence figures. The plea for a European prevalence study, made in the report on the second national Dutch prevalence study of Child Abuse and Neglect (Alink et al., 2011), might be extended to a world-wide prevalence study according to NIS methodology. Within such a research program care should be taken to disentangle effects of culture, socio-economic status, and ethnicity (Elliott & Urquiza, 2006).

Conclusion

The current meta-analysis shows that childhood emotional abuse is a universal problem touching the lives of far too many children all over the world. This is in sharp contrast with the United Nation's Convention on the Rights of the Child (1989) in which the 194 ratifying countries (November 2009) explicitly state that they shall take all appropriate legislative, administrative, social, and educational measures, either nationally, bilaterally, or multilaterally, in order to protect children from any type of abuse. The high prevalence of emotional abuse is particularly striking because emotional abuse seems to have pervasive negative effects on various aspects of children's neural, emotional and psychological development, with continuing consequences for later life.

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Appendix A

NIS-3 Definitions of Child Emotional Abuse[a]

Specific Form of Maltreatment (NIS-3 code)	Acts/Omissions Included
Close Confinement: Tying/Binding (05.1)	Tortuous restriction of movement as a means of punishment or control, such as by tying a child's arms or legs together or binding child to a chair, bed, or other object, or a responsible person permitting another to do so. Does not include generally accepted practices of care, such as swaddling infants or use of safety harnesses on toddlers.
Close Confinement: Other (05.2)	Confinement of child to an enclosed area (such as a closet) as a means of punishment. The category does not include minor forms of confinement such as requiring that the child stay in his/her room or "grounding" him/her for a few days.
Verbal or Emotional Assault (06.0)	Verbally assaultive or abusive treatment which reflects a systematic pattern of belittling, denigrating, scapegoating, or other nonphysical forms of overtly hostile or rejecting treatment as well as excessive nonphysical discipline. Also includes verbal threats of other forms of maltreatment, such as abandonment, suicide, beating, sexual assault, etc. This category is not used if this maltreatment occurred in conjunction with abuse in any of categories 01.0 through 05.2[b], or category 07.0, unless acts and adverse effects occurred which were separate and distinct from those in other categories.
Other or Unknown Abuse (07.0)	Forms of overtly punitive, exploitative, or abusive treatment other than above, or unspecified abusive treatment. Category includes attempted or potential physical or sexual assault or exploitation where actual physical contact was not indicated to have occurred, intentional withholding of food, shelter, sleep, or other necessities as a form of punishment, overworking or economic exploitation of child (e.g., excessive responsibilities or excessive demands for income-producing work by child); and unspecified abusive treatment or assaultive/exploitative treatment other than that referred to in categories 01 through 06[b].

[a]Extracted from Sedlak (2001)
[b]01.0 to 04.0: All forms of sexual and physical abuse

5

The neglect of neglect: A meta-analytic review of the prevalence of neglect

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Abstract

Purpose The aim of the current meta-analysis was to provide an estimate of the prevalence of physical and emotional neglect by integrating prevalence figures from the body of research reporting on neglect. An attempt was also made to unravel the substantial variation in prevalence figures reported in primary studies by analyzing the effects of procedural factors and sample characteristics on combined prevalence rates.

Methods A comprehensive meta-analysis was conducted combining prevalence figures of child physical neglect for 13 independent samples with a total of 59,406 participants, and prevalence figures of emotional neglect for 16 independent samples with a total of 59,655 participants.

Results The overall estimated prevalence was 163/1000 for physical neglect, and 184/1000 for emotional neglect, with no apparent gender differences. The influence of research design factors on the prevalence of physical neglect was more pronounced than their influence on the prevalence of emotional neglect. Studies on physical neglect in 'low resource' countries were conspicuously absent.

Conclusions Child neglect is a problem of considerable extent, and the neglect of child neglect in scientific research is deplorable, especially in low-resource countries. Recommendations for the design of future prevalence studies are proposed.

Introduction

Although the consequences of child neglect seem to be as important as those of the more active types of abuse, and although neglect is the most frequent category of child maltreatment recorded by child protection agencies [1], child neglect has not been the primary focus of many empirical studies. Whereas in a recent meta-analysis on the prevalence of child sexual abuse (CSA) more than 200 publications were combined [Chapter 2], the search for publications reporting the prevalence of child neglect yielded as few as 16 publications. The prevalence of child neglect reported in these studies ranged from 1.4% [3] to 80.1% [4]. This substantial variation underlines the need for a meta-analytic synthesis in order to provide a baseline of child neglect prevalence and to search for determinants of the variation in prevalence estimates.

Neglect has been defined by the Consultation on Child Abuse Prevention [5] as

> … the failure to provide for the development of the child in all spheres: health, education, emotional development, nutrition, shelter, and safe living conditions, in the context of resources reasonably available to the family or caretakers and causes or has a high probability of causing harm to the child's health or physical, mental, spiritual, moral or social development. This includes the failure to properly supervise and protect children from harm as much as is feasible. (p. 15)

Different subtypes of neglect exist. *Physical neglect* refers to the failure to meet children's physical needs, and includes for example the failure to provide adequate nutrition, clothing, personal hygiene, supervision, and medical attention. *Emotional neglect* refers to the failure to meet children's emotional needs, and includes for example the failure to provide adequate nurturance and affection, allowing children to be witnesses of domestic violence, to knowingly permit maladaptive behavior by the child, the failure to seek care for emotional of behavioral problems, and the failure to provide adequate structure. *Educational neglect* refers to the failure to provide the care and supervision that are necessary to secure a child's education. It includes for example failing to enroll a child of mandatory school age in school, permitting chronic absence from school, and failing to attend to special educational needs.

The consequences of neglect seem to be as important as those of abuse [1]. The documented short-term effects of childhood neglect encompass increased risk for childhood internalizing and externalizing behavior and a lack of ego resiliency [6], as well as delays in cognitive and emotional development [7]. The reported long-term effects of childhood neglect include substance abuse [8], diminished economic well-being [9], risky sexual behavior [10], increased risk for posttraumatic stress disorder [11], and an increased likelihood of using social services [12].

In order to determine the overall prevalence of physical and emotional neglect we conducted a meta-analysis of the available studies, and we also examined the influence of sample characteristics and methodological factors on the reported prevalence. Our meta-analysis comprised 16 publications including 25 independent samples and a total of 76,434 participants. These numbers are strikingly low in the light of a recently published meta-analysis on the prevalence of CSA [2] that yielded over 200 publications using self-report measures of CSA for over 400,000 participants, thus confirming the dearth of studies reporting the prevalence of neglect. Even more telling is de fact that the prevalence of neglect was always reported in combination with reports of the prevalence of CSA, child physical abuse, and/or child emotional abuse, indicating that studies on the prevalence of neglect were by-products rather than a primary interest.

Measurement of Neglect

Variability exists among studies with respect to the number of items used to establish physical or emotional neglect ranging from one [e.g., 13] to eight items [e.g., 14]. The number of items used might influence the reported prevalence because multiple items may include more – and more specific – information about neglect than a single item. For example, in the study by Young, Hansen, Gibson, and Ryan [15] physical neglect was assessed with a single item in which respondents replied "never true", "rarely true", or "sometimes true" to the statement "There was someone to take care of you and protect you." (p. 1208). This statement is rather general and open to subjective interpretation by the respondents. In the study by Scher, Forde, McQuaid, and Stein [16] physical neglect was measured with the Childhood Trauma Questionnaire [17]. The CTQ contains five physical neglect items such as "I didn't have enough to eat when I was growing up.", which respondents had to rate on a five-point scale ranging from "never true" to "very often true". These items are behaviorally specific and relatively objective, even though there is still some room for personal interpretation.

Another issue of interest is whether questionnaires or interviews are used, and not much is known about this possible source of influence on reported neglect prevalence. A clue as to what to expect may come from CSA research, but findings are equivocal. Some reviews have noted that studies using interviews yield higher prevalence rates than those using questionnaires [18, 19] while others have not reported such a difference [20, 21]. In our meta-analysis on the prevalence of CSA we found similar figures for face-to-face interviews and questionnaires, but somewhat lower prevalences when telephone interviews or computer-based questionnaires were used [2].

Procedural Factors

Sample size ranged from 112 [22] to 41,482 [15]. Whether sample size influences reported prevalence is not clear, but one might argue that larger samples might

better represent the population and as such provide a better and certainly more precise (i.e. with a smaller confidence interval) estimate of the prevalence of neglect. However, it is unknown whether a better representation of the population is associated with a higher or a lower prevalence of neglect. The sampling procedure was another procedural factor that differed between studies. Approximately half of the samples were various types of convenience samples, such as women recruited on postpartum wards of six hospitals in the Greater Toronto Area [13], members of a health plan in San Diego [23], or undergraduate female Latina psychology students at a private urban university in Texas [22]. The other half of the samples was randomly or modified randomly drawn, as in a national computer-generated stratified random sample in the USA [24] or a New Zealand urban region birth cohort [25]. The influence of sampling method on reported neglect prevalence is unknown. However, convenience samples have been shown to lead to biased results in other areas of investigation [26].

Sample Characteristics

A sample characteristic that might influence the reported prevalence of neglect is social economic status (SES). In individual studies low SES is often associated with more child neglect. Evidence comes from both informant-based studies and studies using self-report measures of neglect (e.g., 27, 28, 29, 30]. Gender differences in the prevalence of neglect are not to be expected as a meta-analysis on risk-factors for neglect did not find gender to be a risk-factor [30], and the fourth National Incidence Study (NIS-4) [31] did not find gender differences in the prevalence of neglect either.

This Study

The current meta-analysis aims at providing an estimate of the prevalence of physical and emotional neglect by integrating prevalence figures from the body of research reporting on neglect. We attempt to unravel the substantial variation in prevalence figures reported in primary studies by analyzing the effects of procedural factors and sample characteristics on combined prevalence rates. We expect combined rates to be similar for women and for men, and we expect that rates are higher in studies with low SES samples. With respect to the other procedural factors and sample characteristics analyzed, the analyses were exploratory due to the absence of firm expectations that could be derived from existing literature.

Method

Literature Search

Three search methods were used to identify eligible studies, published between January 1980 and January 2008. First, we searched the electronic databases PubMed, Online Contents, Picarta, ERIC, PsychInfo, and Web of Science for empirical articles using the terms *prevalence* and/or *incidence* combined with one

of the following terms: *(child*) (physical / emotional / educational) neglect*. Studies that were found with the search terms *(child*) (sexual / physical / emotional) maltreatment, (sexual / physical / emotional) abuse,* and *victimization* were also included when the prevalence of physical, emotional, or educational neglect was reported. Second, we electronically searched the specialized journals *Child Abuse and Neglect* and *Child Maltreatment* with the same terms as mentioned above. Third, the references of the collected papers, dissertations, and book chapters were searched for relevant studies, as were other reviews and meta-analyses on childhood neglect. Studies were included if the prevalence of at least one of the types of neglect was reported (a) in terms of proportions at child level (excluding studies only reporting estimates of the family level) (b) for victims under the age of 18 years in (c) non-clinical samples, and (d) if sufficient data were provided to determine this proportion as well as the sample size.

If publications reported on the same sample or on overlapping samples, the publication providing the maximum of information was included in the meta-analysis. Thus, the independence of samples and the inclusion of every participant only once in the pertinent meta-analyses were ascertained. When a publication reported the prevalence of neglect for more than one sample separately, for example for male and female participants or for participants of different ethnicities, these sub-samples were treated as independent studies. This procedure yielded 16 publications (see supplemental appendix) covering reports on the self-reported prevalence of physical neglect (13 samples) and emotional neglect (16 samples). We also found four publications in which informant-reports were used for the prevalence of physical neglect (two samples), emotional neglect (one sample), and educational neglect (one sample). These studies were not included in the current meta-analysis as the number of studies was too small to warrant further analyses.

Data Extraction

We coded two types of moderators: sample characteristics and procedural moderators. *Sample characteristics* comprised the gender distribution in the sample (100% female, 100% male, or mixed), the geographical area from which the sample originated (Australia/New Zealand, North America, Europe, Africa, South America, Asia), the level of economic development of the sample's country of origin according to the according to the World Economic Outlook Database [32] (high-resource *versus* low-resource), the predominant ethnicity of the sample for studies originating from the USA and Canada (African American, Asian, Caucasian, or Hispanic), the predominant social economic status of the sample (high, moderate, or low), the age of the respondent at the time of assessment, and whether the respondent was an adult or a child at the time of assessment.

Procedural moderators included the following variables: the type of instrument used (questionnaire or interview), whether the instrument used was validated

(yes or no), the number of questions asked (recoded into two categories: up to two questions *versus* three or more questions), in case of emotional neglect: whether it was based on witnessing domestic violence only or on more indicators, the sampling procedure (randomized or convenience), the response rate (low [< 80.0%] *versus* high [≥ 80.0%]), and the sample size (small to moderate [< 1,000] *versus* large [≥ 1,000]). Agreement between the coders for moderators and outcome variables was satisfactory (mean kappa for categorical variables.89, percentage agreement on average 93%; mean intraclass correlations for continuous variables .93).

Meta-Analytic Procedures

The meta-analysis was performed using the Comprehensive Meta-Analysis (CMA) program [33]. For each study, the proportion of abused children was transformed into a logit event rate effect size and the corresponding standard error was calculated [34]. After the analyses, the logits were retransformed into proportions to facilitate interpretation of the results. The coded outcome was the proportion of children physically or emotionally neglected. No outlying effect sizes were detected on the basis of standardized *z* effect-size values larger than 3.29 or smaller than -3.29. Combined effect sizes were computed using CMA.

Significance tests and moderator analyses were performed through random effects models [35]. Fixed effects models are based on the assumption that effect sizes observed in studies estimate the corresponding population effect with random error that stems only from the chance factors associated with subject-level sampling error in that study [34, 36]. This assumption is not made in random effects models [37]. Random effects models allow for the possibility that there are also random differences between studies that are associated with variations in procedures, measures, or settings that go beyond subject-level sampling error and thus point to different study populations [34]. To test the homogeneity of the overall set and specific sets of effect sizes, we computed *Q*-statistics [33]. In addition, we computed 95% confidence intervals (*CI*s), again based on random estimates, around the point estimate of each set of effect sizes. *Q*-statistics and *p*-values were also computed to assess differences between combined effect sizes for specific subsets of studies grouped by moderators. Again, the more conservative random effects model tests were used. Contrasts were only tested when at least two of the subsets consisted of at least four studies [38]. We conducted all moderator analyses with the original sample sizes and with a winsorized sample size for the large study of Young et al. [15] ($n = 41{,}482$). The results were similar. Therefore the results of the analyses with the original sample size are reported.

Some publications reported prevalences of physical and emotional neglect for the same samples, resulting in an overlap between samples. We therefore used 85% *CI*s as a conservative way of testing [39] whether the prevalences of physical and emotional neglect were statistically significantly different. Non-overlapping 85% *CI*s suggest a significant difference between combined effect sizes [40]. For

Study name	Gender	*n*	Prevalence (%)	95% CI		Forest plot
				Low	High	
Finkelhor et al. (2005)	Female	1,015	1.4	0.8	2.3	
May-Chahal et al. (2005)	Female	1,635	7.0	5.9	8.3	
Meston et al. (1999; Asian)	Female	278	46.0	40.2	51.9	
Meston et al. (1999; non-Asian)	Female	391	32.0	27.6	36.8	
Scher et al. (2004)	Female	618	14.2	11.7	17.2	
Thompson et al. (2000)	Female	178	30.0	23.7	37.1	
Finkelhor et al. (2005)	Male	1,015	1.5	0.9	2.5	
May-Chahal et al. (2005)	Male	1,234	6.0	4.8	7.5	
Meston et al. (1999; Asian)	Male	192	64.0	57.0	70.5	
Meston et al. (1999; non-Asian)	Male	191	46.0	39.1	53.1	
Scher et al. (2004)	Male	349	22.1	18.1	26.8	
Young et al. (2006)	Male	41,482	16.9	16.5	17.3	
Hussey et al. (2006)	Mixed	10,828	11.7	11.1	12.3	
Total		59,406	16.3	12.1	21.5	

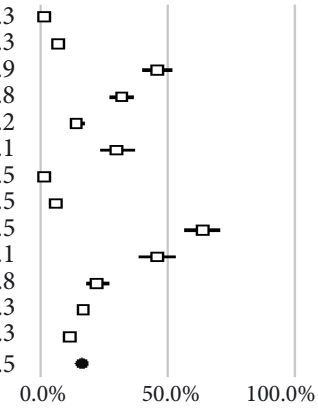

Figure 1. Statistics and forest plot for studies participating in the meta-analysis of physical neglect

Study name	Gender	*n*	Prevalence (%)	95% CI		Forest plot
				Low	High	
Ansara et al. (2005)	Female	200	3.5	1.7	7.2	
Bensley et al. (2003)	Female	3,527	14.4	13.3	15.6	
Chapman et al. (2004)	Female	5,108	13.2	12.3	14.2	
Clemmons et al. (2003)	Female	112	33.9	25.8	43.1	
Fergusson & Horwood (1998)	Female	515	40.0	35.9	44.3	
Gagné et al. (2005)	Female	622	23.6	20.4	27.1	
Jirapramukpitak et al. (2005)	Female	199	8.0	5.0	12.7	
Scher et al. (2004)	Female	618	5.3	3.8	7.4	
Thompson et al. (2000)	Female	178	33.0	26.5	40.2	
Chapman et al. (2004)	Male	4,352	11.0	10.1	12.0	
Fergusson & Horwood (1998)	Male	504	40.0	35.8	44.3	
Jirapramukpitak et al. (2005)	Male	144	9.7	5.8	15.7	
Scher et al. (2004)	Male	349	4.9	3.1	7.7	
Young et al. (2006)	Male	41,482	15.4	15.1	15.8	
Elliott (1997)	Mixed	505	25.0	21.4	29.0	
Stephenson et al. (2006)	Mixed	1240	80.1	77.8	82.2	
Total		59,655	18.4	13.0	25.4	

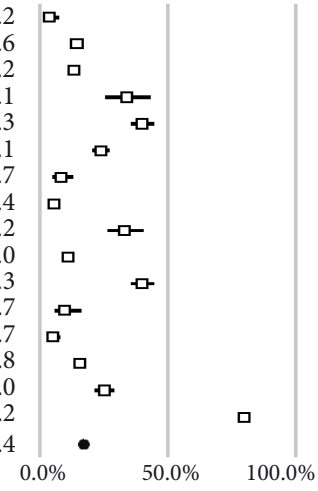

Figure 2. Statistics and forest plot for studies participating in the meta-analysis of emotional neglect

continuous moderators, Fisher's *Z* scores were used in weighted least squares meta-regression analyses.

We used the "trim and fill" method [41, 42] to calculate the effect of potential publication bias on the outcomes of the meta-analyses. Using this method, a funnel plot is constructed of each study's effect size against its precision (usually plotted as 1/SE). These plots should be shaped like a funnel if no publication bias is present. However, since smaller studies and studies with non-significant results are less likely to be published, studies in the bottom left-hand corner or often omitted [42, 43]. The *k* left-most studies considered to be symmetrically unmatched are trimmed and their missing counterparts imputed or "filled" as mirror images of the trimmed outcomes. This then allows for the computation of adjusted overall effect sizes and confidence intervals [43, 44]. We also examined the stability of the results using the 'jackknife' procedure, analyzing whether the overall effect size changed significantly when the combined effect sizes were calculated after the successive removal of one effect size [33]. We also calculated the fail-safe number, being the number of studies with average sample sizes and null outcomes that would be required to bring the combined effect size of the meta-analysis to a non-significant level [45]. Rosenthal [36] suggested that $5k + 10$, where *k* is the number of studies included, may be considered a general criterion for robustness.

Results

Combined Prevalence

The combined prevalence for the set of physical neglect studies was 16.3% (k = 16, N = 59,406; 95% *CI*: 12.1% – 21.5%; $p < .01$), and the combined prevalence for emotional neglect was 18. 4% (k = 13, N = 59,655; 95% *CI*: 13.0% - 25.4%; $p <$ .01), see Table 1. Figures 1 and 2 show the distribution of the prevalence figures reported by the included studies on physical and emotional neglect, respectively. Both sets of studies were heterogeneous (for statistics, see Table 1). The 85% *CI*s of the combined prevalences of physical and emotional neglect (14.7% - 23.0% and 12.5% - 20.7%, respectively) overlapped, indicating that the difference in combined prevalence was not statistically significant.

Duvall and Tweedie's [41, 43] trim and fill method revealed no asymmetry in the funnel plots for physical or for emotional neglect studies suggesting that asymmetrical publication bias is unlikely. The jackknife procedure yielded the same point estimate and *CI*'s for both types of neglect, indicating stability of our findings. The fail-safe number - the number of studies with null-result needed to cancel out the significance of the combined prevalence - was 4,531 for the set of physical neglect studies and 7,538 for the emotional neglect studies. Thus, 4,531 physical neglect studies and 7,538 emotional neglect studies with null results would be needed to reduce the combined prevalences to non-significance.

The results of the moderator analyses will be presented separately for physical and emotional neglect. The subsets of all moderator analyses remained heterogeneous.

Table 1. *Results of moderator analyses for self-report studies: number of studies and participants, and combined prevalence including 95% confidence intervals (*CI*).*

		Physical neglect					Emotional neglect				
		K[c]	*N*	Combined prevalence (%)	95% *CI*	Contrast Q^z	*K*[c]	*N*	Combined prevalence (%)	95% *CI*	Contrast Q^d
Overall estimate		13	59,406	16.3**	12.1 – 21.5	1,122.82[d] **	16	59,655	18.4**	13.0 – 25.4	2,554.35[d]
Sample characteristics											
Gender						0.07					0.36
	Female	6	4,115	15.2**	6.9 – 30.3		9	11,079	16.1**	10.6 – 23.6	
	Male	6	44,463	17.5**	8.1 – 34.0		5	46,831	13.6**	7.7 – 22.9	
	Mixed	1	10,828	11.7	1.5 – 53.1		2	1,745	53.8	30.3 – 75.7	
Continent						n/a					n/a
	Asia						3	1,583	30.1**	19.8 – 42.9	
	Australia						2	1,019	40.0	26.3 – 55.5	
	Europe	2	2,869	6.5**	3.0 – 13.7						
	South America										
	USA/Canada	11	56,537	19.2**	14.2 – 27.1		11	57,053	14.5**	11.4 – 18.3	
Economic development						n/a					n/a
	High-resource	13	59,406				13	58,072	17.2**	13.2 – 22.1	
	Low-resource						3	1,583	28.5**	16.9 – 43.7	
Ethnicity[b]						n/a					n/a
	African American	1	178	30.0	8.4 – 66.7		1	178	33.0*	21.0 – 47.6	
	Asian	2	470	55.1	29.3 – 78.4						
	Caucasian	7	45,061	12.5**	7.4 – 20.4		7	55,941	12.2**	10.1 – 14.8	
	Hispanic						1	112	33.9*	21.0 – 49.7	
SES						n/a					n/a
	Predominantly low	1	178	30.0	9.2 – 64.5		3	2,040	46.3	30.6 – 62.7	
	Predominantly moderate	7	43,501	32.2**	21.7 – 44.9		8	52,726	11.7**	8.0 – 16.8	
	Predominantly high	2	2,030	1.4**	0.5 – 4.1		1	3,527	14.4**	5.1 – 34.5	
Respondent						n/a					n/a
	Adult	11	57,376	22.7**	17.2 – 29.2		13	57,681	14.4**	10.8 – 19.0	
	Child	2	2,030	1.4**	0.6 – 3.4		3	1,974	46.8	30.8 – 63.4	

Procedural moderators										
Witnessing domestic violence										0.18
	EN					6	44,067	16.0**	7.3 – 31.8	
	EN = witnessing only					10	15,588	19.6**	10.9 – 32.6	
Type of instrument					n/a					10.94**
	Interview	3	2,208	4.6**	2.2 – 9.5	4	4,724	30.4	15.4 – 51.2	
	Questionnaire	8	56,231	23.2**	16.2 – 32.1	9	53,764	21.3**	13.1 – 32.7	
Instrument validated					50.01**					0.67
	No	6	57,209	5.7**	3.7 – 8.6	12	58,398	20.0**	13.3 – 28.8	
	Yes	7	2,197	34.7**	26.1 – 44.3	4	1,257	14.2**	6.7 – 27.8	
Number of questions					19.19**					2.10
	1 or 2	4	54,340	5.1**	2.7 – 9.4	7	55,796	14.1**	9.5 – 20.5	
	3 or more	8	4,888	24.6**	17.1 – 34.1	7	3,569	21.0**	14.4 – 29.5	
Sampling procedure					22.55**					2.42
	Convenience	6	42,712	37.9	24.1 – 53.9	9	52,397	14.6**	9.1 – 22.5	
	Randomized	7	16,694	6.5**	3.7 – 11.4	7	7,258	24.3**	15.1 – 36.9	
Response rate					61.18**					35.90**
	Low to moderate	8	58,176	7.8**	5.7 – 10.7	9	56,253	12.1**	8.9 – 16.3	
	High	5	1,230	43.3	33.2 – 54.0	5	3,059	43.8	33.2 – 54.9	
Sample size					50.01**					0.79
	Small to moderate	7	2,197	34.7**	26.1 – 44.3	11	3,946	16.5**	10.6 – 24.8	
	Large	6	57,209	5.7**	3.7 – 8.6	5	55,709	22.9**	12.5 – 38.2	

*$p < .05$, **$p < .01$; [a]subgroups with $k < 4$ or 'other' categories are excluded from contrasts; EN = emotional neglect; [b] for the subset of studies originating from the USA and Canada; [c]differences in totals of k are due to the exclusion from the pertinent analysis of studies with missing values; [d]Q for heterogeneity of the set of studies

Physical Neglect

Sample characteristics. The result of the moderator analysis for gender was not significant, indicating that physical neglect occurs at approximately the same rate among females and males (see Table 1). Moderator analyses for the other sample characteristics could not be carried out due to the small set of physical neglect studies.

Procedural moderators. The use of validated instruments yielded a significantly higher prevalence for physical neglect than the use of non-validated instruments. The combined prevalence was significantly lower when one or two questions were used to assess the occurrence of physical neglect than when three or more questions were used. A meta-regression using the number of questions as predictor and the logit event rate as dependent variable revealed a significant model with a positive slope, indicating an increase of reported prevalence with an increasing number of questions ($z = 3.04$, $p = 0.002$), thus confirming the result of the moderator analysis. The combined prevalence of studies using convenience samples was significantly higher than the combined prevalence of studies using randomized samples. The combined prevalence of studies with low or moderate response rates was significantly lower than the combined prevalence of studies with high response rates. For studies with small to moderate sample sizes, a higher combined prevalence was found than for studies with large sample sizes. The contrast between studies using interviews or questionnaires could not be tested due to the small set of physical neglect studies using interviews.

Emotional Neglect

Sample characteristics. Similar as for physical neglect, gender was not a significant moderator implying that emotional neglect occurs at about the same rate among females and males (see Table 1). Moderator analyses for the other sample characteristics could not be carried out due to the small set of physical neglect studies.

Procedural moderators. No difference in reported prevalence was found between studies that reported on witnessing domestic violence only and studies that used a more comprehensive definition of emotional neglect. The combined prevalence of studies using interviews was significantly higher than the combined prevalence of studies using questionnaires (see Table 1). The combined prevalence of studies with low or moderate response rates was significantly lower than the combined prevalence of studies with high response rates. The analyses of none of the other procedural moderators reached significance, indicating no differences in combined prevalence between studies using validated or non-validated instruments, between studies using fewer than three or more than three questions for the assessment of emotional neglect, between studies using convenience or randomized samples, and between studies with small to moderate or large sample sizes.

Discussion

The global prevalence of child physical neglect was estimated to be 16.3% or 163 per 1000 children based on 13 independent samples with a total of 59,406 participants, and the global prevalence of child emotional neglect was estimated to be 18.4% or 184 per 1000 children based on 16 independent samples with a total of 59,655 participants, with no apparent gender differences. A procedural factor that influenced self-reported prevalence of both physical and emotional neglect was response rate. Other factors influenced the prevalence of either physical or emotional neglect (e.g., the sampling procedure or the number of questions used to assess neglect).

The "neglect of child neglect" is apparent from the fact that we could trace only a modest number of studies reporting on the prevalence of neglect: 16 for physical neglect and 13 for emotional neglect. In such small sets of studies outlying effect sizes and sample sizes may exert a large influence on the estimated effect size. In our set of studies the largest sample size ($N = 41{,}482$) was found in the study by Young et al. [15], and the study by Meston, Heiman, Trapnell, and Carlin [46] reported rather large prevalence rates. However, neither winsorizing the largest sample size nor the jackknife procedure, in which the reported prevalence is calculated when one study at a time is removed, resulted in meaningful changes of the estimated prevalence. Therefore, we can be reasonably certain of the robustness of our meta-analytic results.

Due to the small number of studies, the possible influence of many sample characteristics could not be tested. Also, the distribution of studies among geographical areas of origin of the sample was rather uneven with a large majority of samples originating from North America, no samples from South America, and only few from Asia, Australia, and Europe. The same applies to the level of economic development. All physical neglect samples and a majority of the emotional neglect samples originated from countries that are labeled high-resource by the International Monetary Fund [32]. This is especially unfortunate because a higher level of physical neglect may be expected in low-resource countries due to the difficult life-circumstances of most parents and children in these countries (as described by, e.g., [47]).

The contrasts based on procedural moderators showed that most procedural factors influenced the prevalence of physical neglect but not the prevalence of emotional neglect (e.g., the number of questions used to assess neglect, the sampling procedure). Exceptions were whether questionnaires or interviews were used, with questionnaires yielding lower rates of emotional but not of physical neglect, and response rate that showed higher combined prevalences for both types of neglect when studies had high response rates. Differences in moderator effects may be related to differences between physical and emotional neglect. Emotional neglect may be more difficult to rate than physical neglect as the construct of emotional neglect may be more open to personal interpretation. A

rather extreme example of an item that is open to subjectivity is "You felt loved." to which participants could answer "never true", "rarely true", or "sometimes true" [15]. Although one might wonder whether subjectivity can be entirely banned from the measurement of emotional neglect, we recommend the use of multiple, behaviorally specific questions about physical and emotional neglect in order to rule out at least part of the subjectivity.

We found substantial differences in the prevalence of physical neglect for studies using different types of procedural characteristics. Interestingly, studies with seemingly better procedural characteristics showed on and off higher and lower prevalence rates. For example, randomly drawn samples, preferred from a methodological perspective, showed a lower combined prevalence than convenience samples but larger numbers of questions, yielding more precise information on neglect, were associated with a higher combined prevalence, as were higher response rates.

Trying to delineate studies with, in order, overall good and suboptimal procedural qualities, we describe two studies that might illustrate such procedural differences: May-Chahal and Cawson [14] is an example of a study with better procedural qualities, whereas the Young et al. [15] study seems less optimal. May-Chahal and Cawson [14] report the prevalence of physical neglect in two randomized samples of 1,634 female and 1,235 male adult participants aged 18 – 24 from the United Kingdom, with a response rate of 69%. Eight quite specific items on physical neglect were used, such as "Before you were 12 years old, you always/often went hungry because no one got you meals or there was no food in the house" and "You regularly had to look after yourself because your parents went away". The physical neglect prevalence was 6.0% for boys and 7.0% for girls. As an example of a study with less optimal procedural qualities, Young et al. [15] examined the prevalence of physical neglect in a large convenience sample of 41,482 young male Marine recruits at the Marine Corps Recruit Depot in San Diego, USA, with a response rate 63.6%. A single item was used to measure physical neglect: "There was someone to take care of you and protect you before the age of 17", which respondents had to respond to by "never true", "rarely true", or "sometimes true". The physical neglect prevalence was 16.9% [15]. Interestingly, the physical neglect prevalence reported in the study with the better design features [14] was about half of the prevalence reported in the study with the less optimal procedures [15]. Although no firm conclusion can be drawn from these examples, they might indicate a potential overestimation of the physical neglect prevalence due to less optimal design features of several prevalence studies.

Conclusion

The current meta-analysis shows that child neglect is a problem of considerable extent, touching the lives of many children. Given the dearth of studies investigating – the prevalence of – child neglect and given the severe consequences of neglect

[1], more studies with a primary focus on child neglect should be undertaken. Carrying out studies in low-resource countries is especially important because the body of research in these countries is even more limited than in high-resource countries. Such studies should be methodologically sound, use representative randomized population samples, and should include clear and behaviorally defined operationalizations for physical and emotional neglect.

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6

The prevalence of child maltreatment across the globe: Review of a series of meta-analyses

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Abstract

In this review we combine and compare results of a series of meta-analyses on the prevalence of child sexual, physical, and emotional abuse and of physical and emotional neglect, including 244 publications and 577 prevalence rates for the various types of maltreatment. Child maltreatment research seems to be dominated by research on sexual abuse, by studies in developed parts of the world, and by research using self-report measures. The overall estimated prevalence rates for self-report studies were 127/1,000 for sexual abuse (76/1,000 among boys and 180/1,000 among girls), 226/1,000 for physical abuse, 363/1,000 for emotional abuse, 163/1,000 for physical neglect, and 184/1,000 for emotional neglect. The overall estimated prevalence rates for studies using informants were 4/1,000 for sexual abuse and 3/1,000 for physical and for emotional abuse. Design and sample characteristics partly explained variation of self-reported prevalence rates. We conclude that child maltreatment is a widespread, global phenomenon affecting the lives of millions of children all over the world, which is in sharp contrast with the United Nation's Convention on the Rights of the Child.

Introduction

Hundreds of studies with estimated prevalence rates of child maltreatment have been published to date. The reported prevalence rate estimations show a wide range, from nearly 0% (i.e., Raiha & Soma, 1997; Sibert et al., 2002) to more than 90% (i.e., Meston, Heiman, Trapnell, & Carlin, 1999; Milner, Robertson, & Rogers, 1990). Thus, it remains unclear how many children's lives are touched by maltreatment. Part of the variance in prevalence rates may reflect real differences in the occurrence of child maltreatment, for example due to differences between types of maltreatment, between genders, or due to variation in geographical origin of the samples. Part of the variance may also be due to design features such as how child maltreatment was measured or what kinds of samples were used. Aiming to unravel the causes of variance in prevalence rates, we carried out a unique series of comprehensive meta-analyses on the prevalence of various types of child maltreatment (sexual abuse, Chapter 2; physical abuse, Chapter 3; emotional abuse, Chapter 4; physical and emotional neglect, Chapter 5), and in the current review we present a synthesis of these meta-analytical studies.

A general description of the different types of maltreatment can be found in the Report of the Consultation on Child Abuse Prevention (see Appendix A; WHO, 1999). This report describes *sexual abuse* as the involvement of children in sexual activity that they do not fully understand, are unable to give informed consent to, for which they are not developmentally prepared, or that violate the standards of the society in which these children live. *Physical abuse* is defined as the infliction of potential or actual physical harm by a caregiver caused by interactions or lack of interactions that are reasonably in control of this caregiver. The description of *emotional abuse* includes the failure to provide a developmentally appropriate, supportive environment that allows the child to develop a stable and full range of emotional and social competencies, according to the child's personal potentials and in the context of the society in which the child grows up. Again, these acts should be reasonably within the control of the caregiver. *Neglect*, including physical, emotional, and educational neglect, is described as the failure, within the limits of the caregivers' resources, to provide for the development of the child in all domains including health, education, emotional development, nutrition, shelter, and safe living conditions.

For each of the above mentioned types of maltreatment the global overall prevalence was calculated and the influences of sample characteristics and design features were investigated, allowing us to compare prevalence rates and to find out if study characteristics would exert similar or differential effects on the prevalence rates of different types of maltreatment. Given the devastating consequences of child maltreatment (e.g., Gilbert, Spatz Widom, Browne, Fergusson, Webb, & Janson, 2009) it is important to know how often child maltreatment occurs. This is especially salient in the light of the United Nation's Convention on the Rights of the Child (1989) in which the 194 ratifying countries state that they would take all possible measures in order to protect children form maltreatment.

In this review we combine and compare the results of our series of meta-analyses on the prevalence of sexual, physical, and emotional abuse, and of physical and emotional neglect including a total of 244 publications in which 577 prevalence rates were reported for the various types of maltreatment. We provide an overview of the body of maltreatment research, mapping the distribution of studies over time, types of maltreatment, and continent of origin of samples. Combining and comparing the results enables us to draw conclusions about the prevalence of different types of maltreatment that are based on this extensive body of research, allowing for conclusions with regard to measuring maltreatment rates and directions for future research.

Method

In this section we provide a synopsis of the methods used in the series of meta-analyses on the prevalence of child sexual abuse, (SA, Chapter 2), child physical abuse (PA, Chapter 3), child emotional abuse (EA, Chapter 4), and child physical and emotional neglect (PN and EN respectively, Chapter 5). More detailed information can be found in these publications.

Studies were included in (one of) the meta-analyses if the prevalence of at least one of the pertinent types of maltreatment was reported (a) in terms of proportions at the child level (excluding studies only reporting estimates at the family level) (b) for victims under the age of 18 years in (c) non-clinical samples, if (d) sufficient data were provided to determine the proportion under (a) as well as the sample size. Studies were included when either self-report measures were used or when informants such as medical professionals, child protection workers, or teachers reported on the maltreatment experiences of the children they were in touch with. When publications reported the prevalence of maltreatment separately for more than one sample, for example for male and female participants or for participants of various ethnicities, the prevalence rates were treated as independent rates. This procedure yielded 244 publications, providing 577 prevalence rates of different types of maltreatment.

The outcome that we coded was the proportion of children who were abused or neglected. In order to be able to weight effect sizes, sample size was also coded. Two types of moderators were coded: sample characteristics and procedural features (see the Appendix B). A detailed description of the coding systems can be found elsewhere (Chapters 2 through 5).

Results and Discussion

Mapping Maltreatment Research

The vast majority of the 244 publications that were included in the series of meta-analyses reported on the prevalence of SA (217 publications). These reports were on the prevalence of SA exclusively (130 publications) or included other types of maltreatment as well (87 publications). In 27 publications, the prevalence of SA

was not reported. In these publications, information on the prevalence of PA only was provided in 21 publications, and six publications reported on PA and on other types of maltreatment. As shown in Figure 1, the 244 publications included 577 prevalence rates for the various types of maltreatment: 331 for SA (323 self-report; 8 informant-report), 168 for PA (157; 11), 46 for EA (42; 4), 17 for EN (16; 1), and 15 for PN (13; 2). Figure 2 gives an overview of the number of studies per year for each type of maltreatment, illustrating that the start of research on (the prevalence of) child maltreatment seems to have been dominated by research on SA. Research on PA started considerably later (although research on harsh physical punishment preceded PA and SA research), soon to be followed by research on the other types of maltreatment.

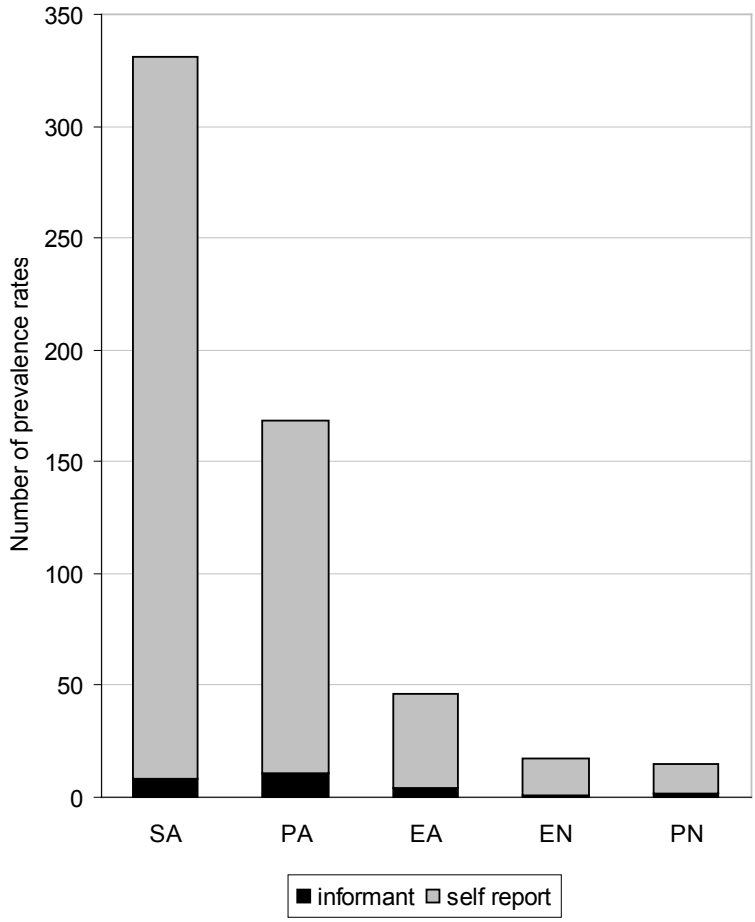

Figure 1. The number of prevalence rates reported for different types of maltreatment. SA = sexual abuse; PA = physical abuse; EA = emotional abuse; EN = emotional neglect; PN = physical neglect.

Most prevalence rates were provided for samples originating from North America with Europe second in line and Africa and South America lagging behind (see Figures 3 a and b). No informant studies were conducted in South America and Australia. The main focus within all continents was on SA, with the exception of Africa where the one and only informant study reported on PA (see Figures 3 c and d). When more (self-report) studies were available for a continent, they reported on more types of maltreatment. This is illustrated by the eight South American prevalence rates distributed only over SA and PA, through the 35 prevalence rates for SA, PA, EA, and EN from Australia and New Zealand, to the additional rates for PN in the 94 European and the 339 North American prevalence studies (see Figure 3 c). Moreover, a hierarchy of type of maltreatment seems to exist with SA first in line followed by PA, EA, EN, and PN respectively: Prevalence rates for lower ranked types of maltreatment are reported exclusively in the presence of prevalence rates for the nearest-higher ranked type. For example, it is only when prevalence rates for PA (second in the hierarchy) are reported that prevalence rates for EA are also reported.

Three conclusions can be drawn from the distribution of child maltreatment research over types, time, and geographical areas. First, maltreatment research seems to be dominated by research on SA both in time (maltreatment research seems to have started with research on SA; see Figure 2) and number (SA research outnumbers the body of all other types of child maltreatment research together; see Figure 1), with studies on EA and neglect lagging far behind. Even after the start of research on other types of maltreatment, SA was the type of maltreatment

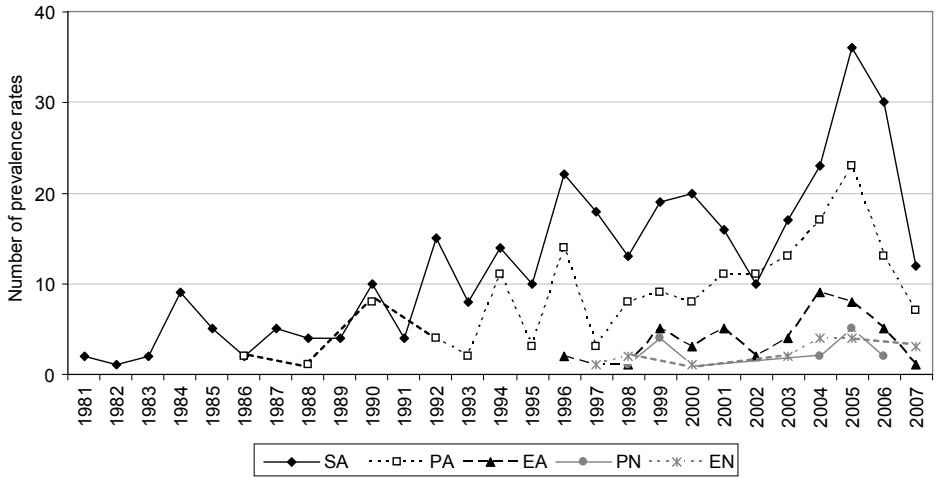

Figure 2. Number of prevalence rates per type of maltreatment per year. SA = sexual abuse; PA = physical abuse; EA = emotional abuse; EN = emotional neglect; PN = physical neglect

most frequently investigated (see Figure 2). Confirming this special interest in SA, it is the only type of maltreatment that elicited two meta-analytic studies (Pereda, Guilera, Forns, & Gómez-Benito, 2009b; Chapter 2).

Knowing that the kickoff of the societal and scientific interest in child maltreatment was caused by a publication on child physical abuse (Kempe, Silverman, Steele, Droegemueller, & Silver, 1962), what can be the reason for the predominance of SA in maltreatment research? One of the reasons may be that SA was, or is, thought to have the most severe consequences for development. SA may also be more easily operationalized than other types of maltreatment, due to clear-cut boundaries between right and wrong. Behaviors that constitute SA were always considered wrong as opposed to parental disciplinarian behaviors that are part of PA and EA but could be seen alongside normative, good-enough parenting, although harsh and inappropriate. Finkelhor (D. Finkelhor, personal communication, January 16, 2012) suggested some additional reasons. Formulating boundaries for PA and EA may be felt as involvement with parental rights and family rearing practices and thus raises different – political – issues than SA. Also, perpetrators of SA are more often extra-familial compared to perpetrators of other types of maltreatment, making SA less threatening to family structures than other types of maltreatment and as such easier to investigate. Further, publicity is more often raised for SA than for other types of maltreatment which can by be illustrated, for example, by the current public interest for SA in religiously run boarding schools in several countries. And finally, policy makers and social scientists were influenced, at least in the United States, by the social agenda of the feminist movement that included SA but not other types of maltreatment as a central theme.

A second conclusion from the synthesis of our meta-analyses is that child maltreatment research seems to be concentrated in countries with a Western culture. The vast majority of the samples studied originate from North America and Europe whereas research in the non-Western cultures of Africa, South America, and Asia is lagging far behind. This state of affairs illustrates Arnett's (2008) observation that psychology research is concentrated in North America and thus represents only approximately five percent of the world population while conclusions are often extrapolated to the world population. Reports on the prevalence of maltreatment in non-North-American and non-European parts of the world exist in insufficient numbers for meta-analytical calculations to estimate the prevalence of maltreatment in vast parts of the world, with billions of people that are heavily underrepresented in child maltreatment research. We do recognize, also, that our grouping of countries into continents is both broad and coarse, and that the within-continent variability of prevalence rates is large (i.e., Chapter 3). In this respect, it is imperative to increase the body of maltreatment research, focusing both on non-Westernized parts of the world and on types of maltreatment that seem to have been neglected so far.

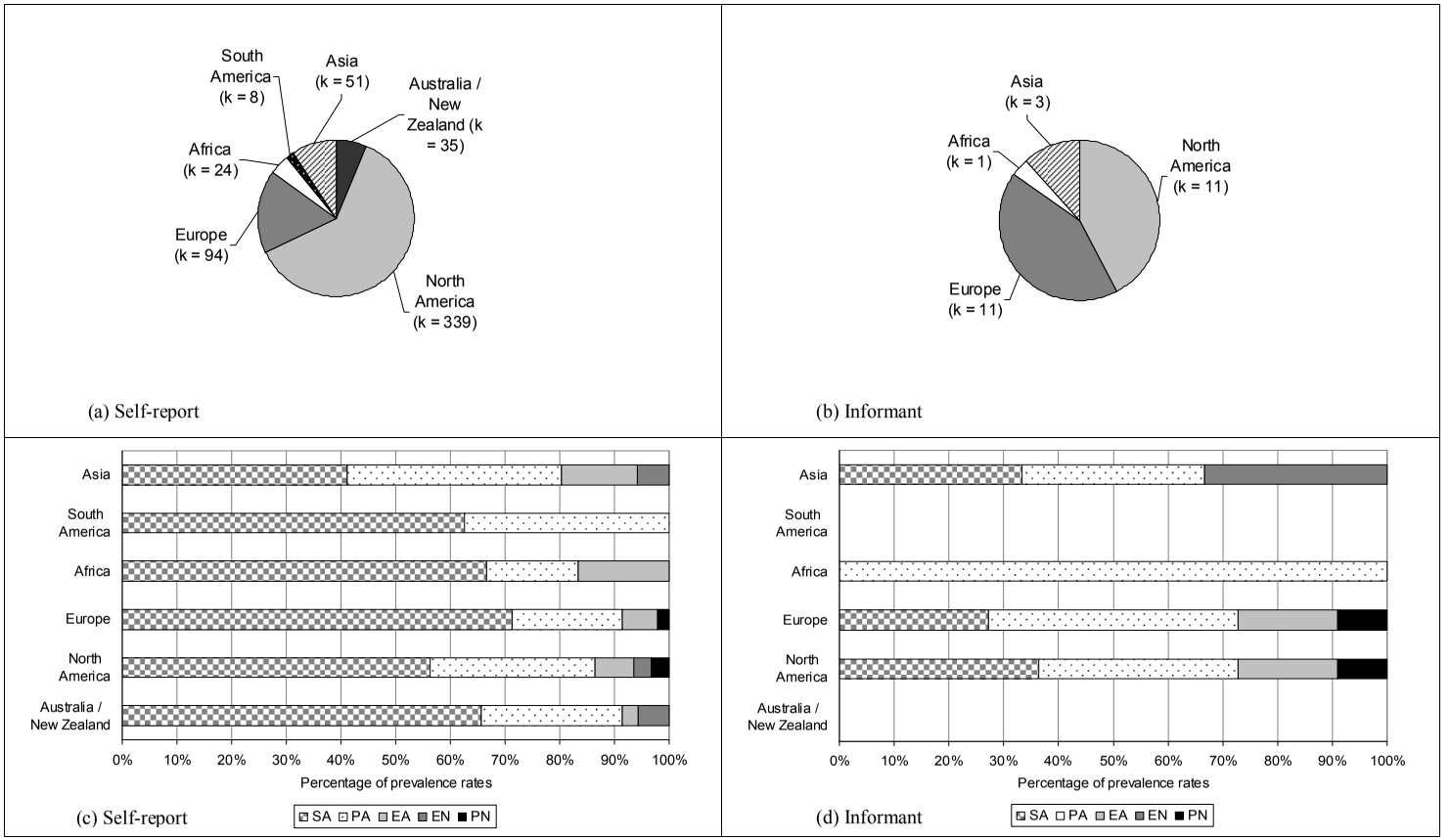

Figure 3. Number of prevalence rates per continent (a,b) and percentage of prevalence rates (c,d) for different types of maltreatment per continent.

Third, the series of meta-analyses shows that the number of informant studies is only a fraction of the number of self-report studies. This may have both practical and financial reasons. From a practical point of view, informant studies are more difficult to carry out than self-report studies. Recruiting informants is more cumbersome than recruiting participants for self-report studies. Moreover, most informant studies are conducted using nationally representative, large samples, increasing the cost of such studies. Further, many self-report studies are initiated by universities or other research organizations whereas most informant studies appear to be government initiated or at least need government endorsement because of the unavoidable need to have access to government-driven systems for data-collection (i.e., police records, social services, child protection services) or for recruitment of informants (i.e., child welfare workers, teachers). Governments might have other priorities for their scarce resources, or they might be hesitant to support the potential discovery of unwelcome facts.

Prevalence Rates

We consistently found a vast gap between the combined prevalence rates of informant studies and studies using self-report measures of child abuse. This is in line with the results of studies linking self-reports to official records (Brown, Cohen, Johnson, & Salzinger, 1998; Gilbert et al., 2009; Johnson, Cohen, Brown, Smailes, & Bernstein, 1999). Combined prevalence rates from informant studies for SA, PA, and EA were 0.4% (85% *CI*: 0.1 – 1.4), 0.3% (85% *CI*: 0.1 – 1.2), and 0.3% (85% *CI*: 0.2 – 0.6) respectively (rates for EN and PN could not be calculated because of a lack of sufficient informant studies), and were strikingly lower than combined prevalence rates from self-report studies, with 7.6% (85% *CI*: 6.4 – 8.5) for SA among boys, 18.4% (85% *CI*: 16.9 – 19.2) for SA among girls, 22.6% (85% *CI*: 20.3 – 25.1) for PA, and 36.3% (85% *CI*: 30.2 – 42.9) for EA. The combined self-reported prevalence rates of PN (16.3%; 85% *CI*: 13.1 – 20.0) and EN (18.4%; 85% *CI*: 14.3 – 23.4) did not differ from each other or from the prevalence rates of PA and SA among girls, as indicated by non-overlapping 85% confidence intervals (see Figure 4).

Informant versus self-report. Several reasons for the large difference in prevalence rates between informant-report and self-report may be mentioned. To start with, most informant studies are based on reports by professionals to child protective services, and therefore capture only part of the proverbial iceberg compared to self-report studies. According to Creighton (2002) this iceberg has five levels: (1) those children who are reported to the police as having been chronically abused or neglected; (2) those children who are reported to child protection agencies and agreed as being in need of protection i.e. registered; (3) those children who are reported to child protection agencies by other professionals such as doctors and health personnel and by the general public; (4) abused or neglected children

who are recognized as such by neighbors or relatives but are not brought to the attention of a professional agency; (5) abused or neglected children who have not been recognized as such by anyone. Informants usually report on the first to the third level whereas the participants in self-report studies also include the fourth and fifth level, thus revealing more of the iceberg than informant studies.

Further, the prevalence rates reported in informant studies usually cover a one-year period whereas the self-reported prevalence of maltreatment generally covers longer periods of childhood. In this respect, the distinction between incidence and prevalence rates comes to mind. *Incidence* refers to the number of new cases of abuse reported or detected during a specific, restricted period of time (Fallon et al., 2010; Peters, Wyatt, & Finkelhor, 1986), often in the context of child protective

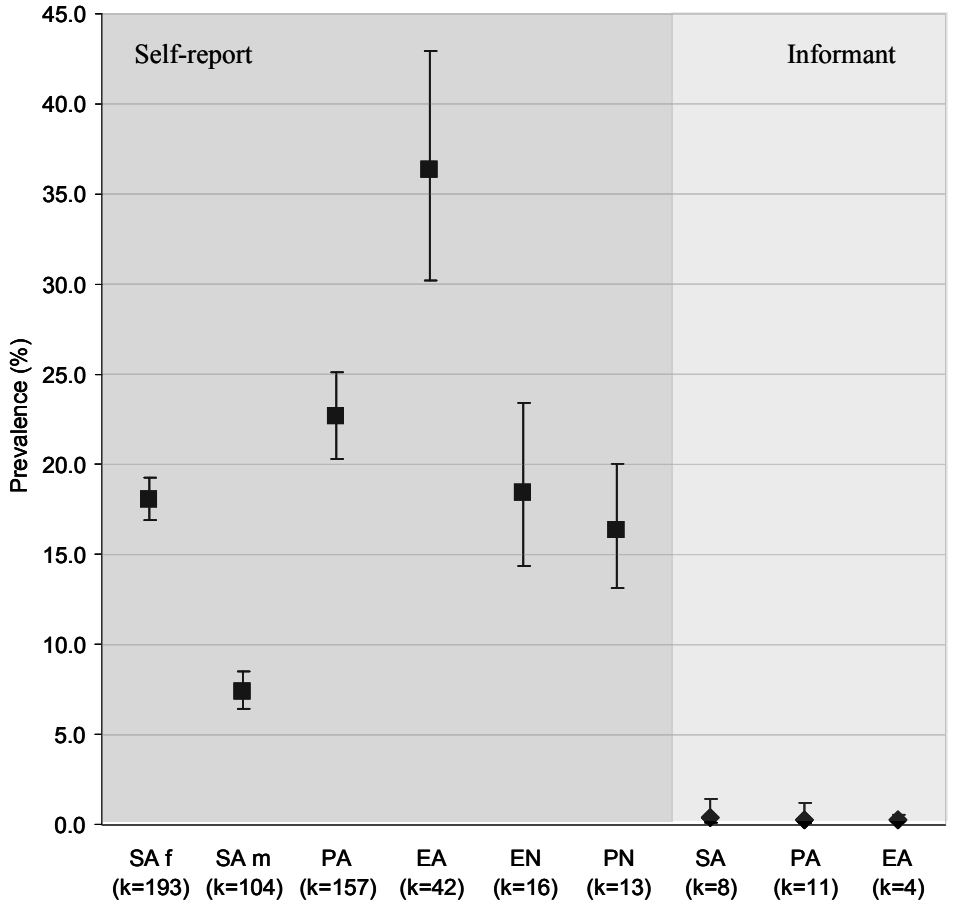

Figure 4. The estimated prevalence of self-report (squares) and informant (diamonds) studies with their 85% confidence intervals. SA = sexual abuse; f = female; m = male; PA = physical abuse; EA = emotional abuse; EN = emotional neglect; PN = physical neglect.

services. Incidence studies may underestimate the occurrence of maltreatment (Leventhal, 1998), not only because only a small proportion of maltreatment cases may be reported to child protective services or other authorities (Goldman & Padayachi, 2000; Leventhal, 1998; Peters et al., 1986) but also because fewer maltreatment experiences are captured than prevalence studies due to the limited time frame of incidence studies. *Prevalence,* on the other hand, refers to the number of individuals having experienced maltreatment during childhood (Fallon et al., 2010; Peters et al., 1986). Life-time prevalence is generally assessed in self-report studies, since participants are usually asked to report on their experiences of maltreatment during their entire childhood and adolescence.

However, with regard to studies on maltreatment based on informants (in combination with child protective services files) the distinction between incidence and prevalence may not be as clear-cut as it seems to be. First, the informants might cover more cases than the cases that are officially reported to child protective services, certainly in countries without a legal obligation to report. Countries with such a legal obligation that also provide some protection for reporters seem to generate more CPS reports (Euser, Van IJzendoorn, Prinzie, & Bakermans-Kranenburg, 2010). Second, it is impossible to ascertain that the cases reported by informants in incidence studies are the very first maltreatment experiences of a child and therefore incidence studies of maltreatment might better be regarded as studies of the current prevalence of maltreatment during a limited period of time (Van IJzendoorn et al., 2007; Alink, Van IJzendoorn, Bakermans-Kranenburg, Pannebakker, Vogels, & Euser, 2011).

With such a vast and consistent difference between prevalence rates from informant and self-report studies, a reflection on advantages and disadvantages of both types of research seems appropriate. An obvious drawback of self-report is the reliance on retrospective memory, which is often seen as unreliable and invalid whereas reports by informants are often judged representing substantiated – though probably only the most severe – cases of maltreatment. However, Hardt and Rutter (2004) conclude, based on an extensive review of studies investigating the validity of adult retrospective reports of adverse childhood experiences, that retrospective recall can be sufficiently valid when adverse experiences are reasonably operationalized and do not rely on judgment and interpretation of events.

Even though for some types of maltreatment an incidental experience could qualify as maltreatment (e.g., the one-time penetration by an uncle is sexual abuse), this is not the case for other types of maltreatment. For example, one of the key aspects of neglect or of emotional abuse is the ongoing nature of maltreatment experiences. This continuity of experiences may be difficult to assess in self-report measures, and better assessed by informants. Another difficulty of self-report is taking into account the circumstances under which maltreatment occurred. For example, neglect encompasses 'the failure to provide for the development of the

child in all spheres: health, education, emotional development, nutrition, shelter, and safe living conditions, *in the context of resources reasonably available to the family...*' (WHO, 1999). These resources of their parents are difficult to asses for children or adults reporting on their own maltreatment experiences, whereas informants may be in a better position to do so. On the other hand, some types of maltreatment such as sexual abuse may be more often invisible to informants than other types, and might be better assessed by solid, multi-item, behaviorally anchored self-report measures.

We conclude that both self-report and informant studies have advantages and drawbacks, and that part of the vast gap in reported prevalence rates of abuse between self-report and informants can be explained by the characteristics of these types of studies. We also conclude that the combined prevalence from informant studies is an underestimate, that the combined prevalence from self-report studies is probably an overestimate, and that the 'real' prevalence of maltreatment may be found in between the two extremes. It would be interesting to compare the rates of maltreatment in a study using both self-report measures and informants in the same randomized population sample.

Table 1. *Comparison of the influence of moderators on the self-reported prevalence between different types of maltreatment. * Indicates significance of a specific moderator; ns indicates non-significance; blank cells indicate that the influence of a specific moderator was not tested. SA = sexual abuse; PA = physical abuse; EA = emotional abuse; EN = emotional neglect; PN = physical neglect.*

	Direction of effect[1]	SA		PA	EA	PN	EN
		girls	boys				
Sample characteristics							
Gender	Girls > boys	*		ns	ns	ns	ns
Continent of origin samples[2]		*	*	ns	ns		
Economic development	Developing > developed	ns	*	ns	ns		
Respondent	Adult > child	ns	*	*	ns		ns
Procedural moderators							
Definition	Broader > narrower	*	ns	*	ns		
Type of instrument		*	ns	ns	ns		*
Instrument validated	Yes > no	ns	ns	ns	ns	*	ns
Number of questions	More questions > fewer	*	ns	*	ns	*	ns
Response rate	Higher response rate > lower	*	*	ns	*	*	*
Sampling procedure	Convenience > randomized	ns	*	ns	*	*	ns
Type of sample[3]	College > other types	ns	*	*	*		
Sample size	Smaller > larger	*	*	ns	ns	*	ns

[1]When significant and similar for all types of maltreatment for which a significant influence was found. [2]For SA, the results of pair-wise moderator-analyses with Continent of origin of samples were not reported in the original publication (Chapter 2). [3]For SA, the results of moderator analyses with Type of instrument were not reported in the original publication (Chapter 2).

Sample Characteristics

Due to an insufficient number of informant studies our analyses and conclusions are restricted to self-report studies. An overview of the influence of the moderators on the prevalence of the respective types of maltreatment is provided in Table 1. All subsets of moderator analyses remained heterogeneous meaning that a substantial amount of variance between study outcomes remained unexplained, even after the moderator analyses.

Gender was a significant moderator for SA, with a lower combined prevalence rate for boys than for girls (7.8% and 18.0% respectively), but no gender differences in the prevalence of PA, EA, PN, and EN were found. *Continent* of origin of samples significantly influenced SA prevalence for both genders. For girls, the combined prevalence rates in Australia and North America were higher than those in Asia and Europe. For boys, the combined prevalence rate in Africa was higher than the rates in Asia, Europe, and North America (for details, see Chapter 2). Continent of origin of samples was not a significant moderator for PA and EA indicating that the prevalence of these types of abuse did not differ between continents. Due to the small number of studies, the influence of continent of origin of samples could not be tested for PN and EN. In a similar vein, the influence of the level of *economic development* of the countries from which samples originated could not be tested for PN and EN. This moderator influenced the prevalence rate for SA among boys only, with a higher combined prevalence rate for developing countries than for developed countries. No differences between developing and developed countries were found for SA among girls, PA, or EA.

The *type of respondent* used in individual studies significantly affected the reported prevalence of SA among boys and the prevalence of PA, with adults reporting more abuse than children did. No such differences were found for SA among girls or for EA and EN, indicating that for these types of maltreatment it did not matter whether adults or children were the respondents. The influence of this moderator could not be tested for PN to due a lack of sufficient studies.

In sum, sample characteristics seem to influence the prevalence of SA more than the prevalence of other types of abuse. One explanation for this is a better power to detect differences between categories of moderators in the larger sets of SA studies compared to the sets of EA, EN, and PN studies. However, if this were the reason for the differences in significance of sample moderators, the same should be true for the other – design – moderators. A quick glance at Table 1 informs us however that significance is more evenly distributed among types of maltreatment for design moderators.

The gender differences that we found for SA may reflect real differences between girls and boys in the occurrence of SA, which may be explained by men being more often the perpetrators of SA than women (Finkelhor, 1994; Vizard, Monck, & Misch, 1995), making girls the target of SA more often than boys. However, gender differences in SA may also stem from boys' more reluctant attitude towards

disclosing their SA experiences (Dhaliwal, Gauzas, Antonowicz, & Ross, 1996; Finkelhor & Baron, 1986; O'Leary & Barber, 2008; Romano & De Luca, 2001; Spatz Widom & Morris, 1997), for example due to the fear of being regarded as the instigator rather than the victim of SA, of being labeled homosexual when abused by a man, or due to feelings of weakness and of failure (Dhaliwal et al, 1996; Romano & De Luca, 2001). Moreover, male victims who do disclose their SA experiences tend to do so later than female victims (O'Leary & Barber, 2008). This may contribute to higher rates for girls than for boys and explain our finding that the SA prevalence for boys was higher in adult samples than in child samples, a finding that was not replicated for girls (see Table 1). Disclosure issues may not apply to other types of maltreatment.

A higher prevalence among adults than among children was also found for PA, but not for EA. One of the explanations for the difference may be that children do not regard harsh physical punishment as PA. They may not consider their experiences as being outside the range of 'normal' parenting behavior because of their lack of experiences with parenting outside of their nuclear family. This may change when they reach adulthood, learn more about parenting, and reflect on their own childhood, and as a result they may be more likely to perceive their childhood experiences as physical abuse. The reason why we did not find a difference between children and adults reporting EA may be that many of the maladaptive parenting behaviors that constitute EA are employed by parents in moments of stress or tiredness and are labeled EA only when a sustained pattern of these behaviors exists (Glaser, 2002). Such a sustained pattern may be difficult to recollect or asses for both adults and children.

We found differences between continents for the prevalence of SA but not for the other types of maltreatment. This finding may of course reflect real cultural-geographical differences for the SA prevalence, and an absence of cultural-geographical differences for the prevalences of PA, EA, PN, and EN. For these types of maltreatment, the large variability of prevalence rates within the continents may overshadow differences between continents, a predominance of intra-cultural differences over inter-cultural differences that has also been found in other of child developmental domains (e.g., Van IJzendoorn & Kroonenberg, 1988).

The level of economic development does not seem to affect the prevalence of abuse with the exception of SA among boys. The influence of this moderator could not be tested for both types of neglect due to an insufficient number of studies. This is regrettable because higher levels of PN and EN may be expected in countries with scarce resources, making life-circumstances of most parents and children very difficult (as described by, i.e., Mbagaya, Oburu, & Bakermans-Kranenburg, in press). Given the dearth of studies investigating – the prevalence of – child neglect and given the severe consequences of neglect (Gilbert et al., 2009), more studies with a primary focus on child neglect should be undertaken, especially

in low-resource countries because the body of research in these countries is even more limited than in high-resource countries.

Design Features

Due to an insufficient number of informant studies our analyses and conclusions are restricted to self-report studies. An overview of the influence of the moderators on the prevalence of the respective types of maltreatment is provided in Table 1. All subsets of moderator analyses remained heterogeneous meaning that a substantial amount of variance between study outcomes remained unexplained, even after the moderator analyses.

The operational *definition* of individual studies was a significant moderator for SA among girls and for PA, with broader definitions yielding a higher combined prevalence rate than narrower definitions. The combined prevalence of SA among boys and of EA did not depend on whether broader or narrower definitions had been used. The influence of this moderator could not be tested for PN and EN due to a lack of sufficient studies. The *type of instrument* used to assess maltreatment exerted a significant influence on the prevalence rates of SA for boys and of EN (for details, see Chapter 2 and 5) but not on the other types of maltreatment. For male SA, the highest prevalence was found when computerized questionnaires were used and the lowest when paper-and-pencil questionnaires were used, with the prevalence rates of computerized interviews and face-to-face interviews falling in between (for details, see Chapter 2). For EN, we had to use the broad categories of interviews, which comprised face-to-face and computerized interviews, and questionnaires, which comprised computerized and paper-and-pencil questionnaires, because of a lack of sufficient studies in each separate category. Interviews yielded a higher combined prevalence than questionnaires (for details, see Chapter 5).

The influence of whether the instrument used was *validated* or not was significant for PN, with higher prevalence rates when validated instruments were used than when non-validated instruments were used. For SA among girls and boys, PA, EA, and EN, the combined prevalence was similar for validated and non-validated instruments. The *number of questions* used to establish maltreatment significantly influenced the reported prevalence of SA among girls, PA, and PN. Larger numbers of questions were related to a higher combined prevalence. The number of questions did not matter for SA among boys, EA, or EN.

Sampling method was a significant moderator for SA among boys, EA, and PN, with convenience samples yielding higher combined prevalence rates than randomized samples. This was not the case for the other types of maltreatment, indicating that the prevalence of SA among girls, PA, and EN did not differ between convenience and randomized samples. The *type of sample* significantly influenced the reported prevalence of SA for boys, PA, and EA. When college samples were used, the combined prevalence was higher than when other types of samples were

used. The influence of this moderator could not be tested for PN and EN due to a lack of sufficient studies. Smaller *sample sizes* were related to a higher combined prevalence rate for SA among boys and girls and for PN. The sample size did not influence the reported prevalence of PA, EA, and EN. *Response rate* influenced the reported prevalence for all types of maltreatment except PA. Higher response rates were related to higher combined prevalence rates.

A first observation about the influence of methodological factors is that the influence of the respective moderators was in the same direction for the various types of maltreatment. Interestingly, studies with better design features such as larger and randomized samples seem to yield lower combined prevalence rates, which may indicate that the lower-range prevalence rates are more representative of the prevalence rates in the population.

Even though the direction of influence of moderators is comparable, moderators seem to differentially affect the various types of maltreatment: Not all moderators were statistically significant for all types of maltreatment; neither did we find moderators that were consistently statistically non-significant. Why do these differences exist? Are some types of maltreatment more sensitive to how and in which sample the prevalence is measured? For example, for boys' SA prevalence, factors pertaining to measurement issues (the definition used, type of instrument, whether the instrument was validated, the number of questions asked) do not influence the prevalence but all sample characteristics and all methodological aspects that have to do with sampling (response rate, sampling procedure, type of sample, sample size) do influence the prevalence of SA for boys (Table 1).

A reason why the prevalence of SA among boys is particularly sensitive to sampling matters may be related to the issues with disclosure that we mentioned above. Men who have experienced SA as boys may be overrepresented in smaller samples because they are more willing to disclose their experiences once they have reached adulthood. Men who have experienced SA may also be overrepresented in convenience samples, a majority of which consist of participants recruited from psychology courses. The specific choice of study may be more common among boys who have experienced SA compared to boys who have not, precisely because of these adverse experiences.

Broader operational definitions, including a larger number of abusive behaviors, were associated with higher combined prevalence rates of SA among girls and of PA but, contrary to our expectations, not of SA among boys and of EA. With regard to EA, the narrower definitions mainly included verbal abuse whereas the broader, more comprehensive definitions also included other aspects of emotional abuse such as close confinement. Verbal abuse may be the most prevalent facet of emotional abuse, always occurring when other and rarer forms of emotional abuse take place, as such explaining the similar combined prevalence rates for studies using broader or narrower definitions of EA. If this is true, we may hypothesize that verbal abuse could serve as an indicator of emotional abuse as a

whole. This hypothesis remains to be tested in future research, preferably by using an instrument that includes multiple behaviorally specific questions targeting all the aspects of childhood emotional abuse, which would allow the investigation of the co-occurrence of different aspects. Regarding SA, stricter operational definitions mostly referred to penetration. A reason for the lack of differences in estimated prevalence rates between stricter and broader definitions for SA among boys may be that boys mostly experience the more severe forms of sexual abuse that are included in all definitions, although findings from primary research are inconclusive in this respect (Romano & De Luca, 2001).

An association of a larger number of questions with a more comprehensive definition of the respective types of maltreatment may be expected, and was indeed found. Moreover, larger numbers of questions were related to higher combined prevalence rates for some types of maltreatment. Multiple questions may lead to a higher reported prevalence than a single question because they may include more abusive or neglectful behaviors and more specific information on the various types of maltreatment with which participants can identify. In addition, multiple questions often have behaviorally specific formulations whereas single questions are often framed as a labeling question, leaving the interpretation of the concept of maltreatment to the participants. The use of labeling questions is more likely to lead to false negatives than to false positives (Baker & Festinger, 2011), which is in line with our findings of lower prevalence rates when fewer questions are used.

Which type of instrument was used and whether this instrument was validated did not influence the reported prevalence of most types of maltreatment. Past research was inconclusive about the magnitude of prevalence rates from studies using interviews or questionnaires, with some reviews noting that studies using interviews show higher prevalence rates than those using questionnaires (Pereda et al., 2009a; Wyatt & Peters, 1986) and others not reporting such a difference (Goldman & Padayachi, 2000; Pereda et al., 2009b; Wyatt & Peters, 1986). The influence of the type of instrument used may have been obscured by the influence of other moderators such as the operational definition and the number of questions used. As noted by Hardt and Rutter (2005), the type of instrument used matters less than how precisely the concept of maltreatment is defined and the level of specificity of the behaviors that participants are questioned about.

Limitations and Future Research

With this series of meta-analyses, our knowledge about the influence of sample characteristics and methodological factors on the reported prevalence of various types of child maltreatment has advanced, allowing for more informed decisions on the measurement of child maltreatment in future research. The most important lesson learned is that design features affect the reported prevalence of self-reported child maltreatment, and should thus be taken into consideration when estimating the prevalence in primary studies.

Some important questions remain to be answered. It is crucial to investigate the substantial gap between the prevalence rates of self-report studies and studies using informants by studying both informant and self-report data within a single, nationally representative randomized sample. When doing so, we recommend using identical, clearly operationalized criteria for the various types of maltreatment in both the informant and the self-report parts of the study. It has been shown that applying the criteria of abuse that were used by informants to the information provided by self-report questionnaires in the same study considerably reduced the rate of self-reported maltreatment (Alink et al., 2011).

The criteria used in a comparative study could correspond either to the legal definitions of maltreatment in the countries where the study is carried out so that the results would be useful for local policy makers, or the criteria could be derived from official international organizations, e.g., the definitions provided by the Consultation on Child Abuse Prevention of the World Health Organization (1999), which would ensure comparability among countries. The investment in studies using both informant and self-report measures in the same samples would certainly be warranted because they could provide the most accurate estimates of the prevalence of child maltreatment as a basis for policy measures regarding the prevention of child maltreatment, as well as a clarification of differences and similarities between these types of studies.

In our series of meta-analyses, we have not touched upon the issue of comorbidity between types of maltreatment, although it has been shown in past research that types of child maltreatment frequently co-exist (i.e., Alink et al., 2011; McGee, Wolfe, Yuen, Wilson, & Carnochan, 1995; Menard, Bandeen-Roche, & Chilcoat, 2004). This topic should be examined in future meta-analytic work; among others because the estimated self-reported prevalence of EA was considerably higher than the estimated prevalence rates of the other types of maltreatment. Some studies report that EA virtually always occurs when children experience other types of maltreatment (i.e., McGee et al., 1995), which may be the reason that EA shows the highest prevalence rate in our series of meta-analyses.

Conclusion

The current review of our series of meta-analyses shows that child maltreatment in all its forms is a global phenomenon of considerable extent, touching the lives of millions of children. This is in sharp contrast with the United Nation's Convention on the Rights of the Child (1989) in which the 194 ratifying countries (November 2009) explicitly state that they shall take all appropriate legislative, administrative, social, and educational measures, either nationally, bilaterally, or multilaterally, in order to protect children from maltreatment.

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Appendix A. *Description of types of maltreatment in the Report of the Consultation on Child Abuse Prevention (WHO, 1999).*

Sexual Abuse

Child sexual abuse is the involvement of a child in sexual activity that he or she does not fully comprehend, is unable to give informed consent to, or for which the child is not developmentally prepared and cannot give consent, or that violate the laws or social taboos of society. Child sexual abuse is evidenced by this activity between a child and an adult or another child who by age or development is in a relationship or responsibility, trust or power, the activity being intended to gratify the needs of the other person. This may include but is not limited to:

- The inducement or coercion of a child to engage in any unlawful sexual activity.
- The exploitative use of child in prostitution or other sexual practices.
- The exploitative use of children in pornographic performances and materials.

Physical Abuse

Physical abuse of a child is that which results in actual or potential physical harm from an interaction or lack of an interaction, which is reasonably within the control of a parent or person in a position of responsibility, power or trust. There may be a single or repeated incidents.

Emotional Abuse

Emotional abuse included the failure to provide a developmentally appropriate, supportive environment, including the availability of a primary attachment figure, so that the child can develop a stable and full range of emotional and social competencies commensurate with her or his personal potentials and in the context of the society in which the child dwells. There may also be acts towards the child that cause or have a high probability of causing harm to the child's health or physical, mental, spiritual, moral or social development. These acts must be reasonably within the control of the parent or person in a relationship of responsibility, trust or power. Acts include restriction of movement, patterns of belittling, denigrating, scapegoating, threatening, scaring, discriminating, ridiculing or other non-physical forms of hostile or rejecting treatment.

Neglect or negligent treatment[1]

Neglect is the failure to provide for the development of the child in all spheres: health, education, emotional development, nutrition, shelter, and safe living conditions, in the context of resources reasonably available to the family or caretakers and causes or has a high probability of causing harm to the child's health or physical, mental, spiritual, moral or social development. This includes the failure to properly supervise and protect children from harm as much as is feasible.

[1]For the purpose of our series of meta-analyses, the neglect category was split into physical and emotional neglect.

Appendix B. *Coding system*

Variable	Coding and Description	
Sample characteristics		
Gender distribution in sample	1	Male
	2	Female
	3	Mixed
Continent	1	Australia including New Zealand
	2	North America including USA and Canada
	3	Europe
	4	Africa
	5	South America
	6	Asia
Country's level of economic development[1]	1	Developing
	2	Developed
Respondent	1	Child / adolescent
	2	Parent
	3	Adult
Procedural moderators		
Definition of abuse[2]	1	According to NIS
	2	Broader than NIS
	3	Stricter than NIS
Type of instrument	1	Paper and pencil questionnaire
	2	Computer questionnaire
	3	Face-to-face interview
	4	Telephone interview
Instrument validated	1	No
	2	Yes
Number of questions		Continuous; in case of a range, we coded the minimum
Response rate		Continuous
Sampling procedure	1	Random
	2	Modified random
	3	Convenience
Type of sample	1	Population
	2	Cohort
	3	High school
	4	College
	5	Occupational group
Sample size		Continuous
Evidence maltreatment	1	Self report[3]
	2	Informant

[1] According to the World Economic Outlook Database (2010)

[2] Based on the types of behavior included in the definition used in NIS-3 (Sedlak, 2001)

[3] Self report was also coded when parents were respondents

Samenvatting (Summary in Dutch)

Samenvatting (Summary in Dutch)

Onderzoek naar kindermishandeling werd in het begin van de jaren '60 aangezwengeld door een artikel van de kinderarts Kempe en zijn collega's (Kempe, Silverman, Steele, Droegemueller, & Silver, 1962) waarin verwondingen en botbreuken bij kinderen voor het eerst in verband werden gebracht met mishandeling door ouders. In de jaren daarna werden talrijke studies naar kindermishandeling uitgevoerd en kreeg kindermishandeling steeds meer maatschappelijke en politieke belangstelling. Dit mondde onder andere uit in het opnemen van kindermishandeling in het Verdrag inzake de Rechten van het Kind, dat op 20 november 1989 in New York werd opgesteld. Door het ondertekenen van dit verdrag verplichtten 193 landen zich om alle passende maatregelen te nemen ter bescherming van kinderen tegen alle vormen van geweld, misbruik of verwaarlozing. De gevolgen van kindermishandeling zijn, zowel op de korte als op de lange termijn, omvangrijk en omvatten een grotere kans op problemen in alle ontwikkelingsdomeinen: fysiek, cognitief, emotioneel en relationeel (Gilbert et al., 2009). Recent onderzoek laat zelfs epigenetische veranderingen zien bij volwassenen die als kind mishandeld werden (McGowan et al., 2009).

Maar hoe vaak komt kindermishandeling eigenlijk voor? Als we kijken naar de resultaten van afzonderlijke empirische onderzoeken naar de (prevalentie van) kindermishandeling worden we niet veel wijzer, want de prevalentiecijfers lopen uiteen van iets meer dan 0% tot ruim 90% (zie hoofdstuk 6). Omdat we een uitspraak wilden doen over de prevalentie van kindermishandeling over de hele wereld hebben we de empirische studies samengevoegd middels meta-analyse. Dit is een krachtige methode om resultaten van studies te integreren, opnieuw te analyseren en op een systematische manier samen te vatten. Omdat we ook geïnteresseerd waren in de oorsprong van de grote verschillen in gerapporteerde prevalenties hebben we de invloed onderzocht van een aantal factoren waarvan we dachten dat zij hieraan ten grondslag konden liggen. Voorbeelden hiervan zijn in welk werelddeel de studies werden uitgevoerd, of het ging om meisjes of jongens, hoe de steekproeven getrokken waren en of in de studies gebruik werd gemaakt van zelfrapportage of rapportage door informanten.

Wat is kindermishandeling?

Volgens de Wereldgezondheidsorganisatie omvat kindermishandeling "*alle vormen van fysieke en/of emotionele mishandeling, seksueel misbruik, verwaarlozing en uitbuiting die leiden tot daadwerkelijke of potentiële schade aan het overleven, de ontwikkeling of de waardigheid van het kind, in de context van een relatie van verantwoordelijkheid, vertrouwen of macht*" (p. 15; World Health Organization, 1999). Binnen deze brede definitie worden door de Wereldgezondheidsorganisatie verschillende vormen van kindermishandeling onderscheiden.

Bij *seksueel misbruik* zijn kinderen betrokken bij seksuele activiteiten die zij niet ten volle begrijpen, waarvoor ze geen toestemming hebben kunnen geven, die niet bij hun ontwikkelingsniveau passen, of die de normen en waarden van de maatschappij waarin zij opgroeien overschrijden. Bij *fysieke mishandeling* is er sprake van daadwerkelijk of potentieel lichamelijk letsel, toegebracht door een verzorger van het kind. Het letsel kan worden veroorzaakt door iets dat de verzorger doet of nalaat en moet redelijkerwijs binnen de invloedsfeer van de verzorger liggen. Bij *emotionele mishandeling* slagen verzorgers er niet in kinderen een omgeving te bieden die hen, op hun eigen ontwikkelingsniveau, ondersteuning biedt bij het ten volle ontwikkelen van de emotionele en sociale vaardigheden die passen bij de maatschappij waarin het kind opgroeit. Opvoedingsgedrag dat onder emotionele mishandeling valt is bijvoorbeeld een herhaald patroon van kleineren, uitschelden, afwijzen, bedreigen en/of opsluiten. *Verwaarlozing* omvat fysieke en emotionele verwaarlozing en verwaarlozing van het onderwijs. Bij fysieke verwaarlozing wordt niet voldaan aan de fysieke behoeften van een kind zoals die aan woning, kleding, voedsel, hygiëne, en medische verzorging. Bij emotionele verwaarlozing wordt niet voldaan aan de emotionele behoeften van een kind. Onder emotionele verwaarlozing vallen bijvoorbeeld een gebrek aan koestering en genegenheid en het nalaten van het zoeken van hulp als er sprake is van psychische- of gedragsproblemen. Verwaarlozing van het onderwijs omvat bijvoorbeeld het toestaan van herhaald spijbelen of het niet zoeken van professionele hulp bij leerproblemen.

Onderzoek naar kindermishandeling in kaart gebracht

In totaal werden 577 prevalentiecijfers van diverse vormen van kindermishandeling meegenomen in de meta-analyse. Deze cijfers werden gerapporteerd in 244 artikelen die tussen 1980 en 2008 gepubliceerd zijn. Gebaseerd op de verdeling van deze publicaties kunnen we twee conclusies trekken over type mishandeling, tijd en werelddeel van herkomst van de studies. Ten eerste werd, en wordt, onderzoek naar kindermishandeling gedomineerd door onderzoek naar (de prevalentie van) seksueel misbruik en zijn verwaarlozing en emotionele mishandeling de ondergeschoven kindjes. Van de 577 prevalentiecijfers betroffen 331 (57%) seksueel misbruik, 168 fysieke mishandeling (29%), 46 emotionele mishandeling (8%), 17 emotionele verwaarlozing (3%) en 15 fysieke verwaarlozing (3%). Ook in de startperiode van onderzoek naar kindermishandeling was seksueel misbruik de overheersende mishandelingvorm, enkele jaren later gevolgd door fysieke mishandeling. Onderzoek naar verwaarlozing en emotionele mishandeling begon jaren later. Dit is opvallend omdat onderzoek naar kindermishandeling immers werd aangezwengeld door een publicatie over fysieke mishandeling (Kempe et al, 1962).

De tweede conclusie is dat onderzoek naar kindermishandeling voornamelijk plaatsvindt in Westerse landen. Meer dan de helft van de studies is uitgevoerd

in Noord-Amerika. Op de tweede plaats komt Europa waar ongeveer 18% van alle studies vandaan komen, gevolgd door Azië (9%), Australië en Nieuw-Zeeland (7%), Afrika (4%) en ten slotte Zuid-Amerika (1%). Dit is markant omdat Noord-Amerika ongeveer 5% van de wereldbevolking herbergt terwijl veel conclusies die gebaseerd zijn op Noord-Amerikaans onderzoek worden geëxtrapoleerd naar de rest van de wereld.

Samenvattend loopt onderzoek naar verwaarlozing en emotionele mishandeling in de hele wereld in aantal achter bij onderzoek naar de andere vormen van mishandeling, en loopt onderzoek naar alle vormen van kindermishandeling in niet-westerse landen in aantal achter bij westerse landen.

Prevalentie en factoren die de prevalentie beïnvloeden

In het overgrote merendeel van studies naar kindermishandeling (95%) werd gebruik gemaakt van zelfrapportage, in tegenstelling tot het gebruik van rapportages door informanten zoals medewerkers van AMK's en Jeugdzorg, psychologen, artsen, leraren en pedagogische medewerkers die rapporteren over mishandeling van kinderen die zij onder hun hoede hebben. Er zijn grote verschillen in prevalenties tussen studies die informantenrapportages gebruiken en studies op basis van zelfrapportage. In informantenstudies werd gerapporteerd dat 4 per 1000 kinderen seksueel misbruikt werden, 3 per 1000 fysiek mishandeld, en 3 per 1000 kinderen emotioneel mishandeld werden. Deze cijfers zijn aanzienlijk lager dan de prevalenties uit studies waarin deelnemers zelf rapporteerden over hun ervaringen. Hieruit bleek dat 76 per 1000 jongens en 184 per 1000 meisjes seksueel misbruikt werden, 226 per 1000 kinderen fysieke mishandeling had meegemaakt en 363 per 1000 kinderen slachtoffer waren geweest van emotionele mishandeling. Voor fysieke verwaarlozing vonden we een prevalentie van 163 per 1000 kinderen en voor emotionele verwaarlozing was dit 184 per 1000 kinderen.

Informanten versus zelfrapportage

Er zijn verschillende redenen aan te wijzen voor het grote verschil in prevalentie tussen studies die zelfrapportage en studies die informantenrapportages gebruiken. De meeste informantenstudies uit de meta-analyse waren gebaseerd op rapportages aan kinderbeschermingsinstanties. In deze studies wordt dientengevolge maar een topje van de ijsberg bloot gelegd in vergelijk met studies gebaseerd op zelfrapportage. Immers, alleen de echt zware en 'zichtbare' gevallen van kindermishandeling komen bij de kinderbescherming terecht. Landelijke onderzoeken waarin de informantengroepen bestonden uit een wijder net van beroepskrachten bij bijvoorbeeld de politie, in het onderwijs en in de kinderopvang, zoals de Tweede Nationale Prevalentiestudie Mishandeling van Kinderen en Jeugdigen (NPM-2010), resulteren in hogere prevalenties omdat zij meer van de ijsberg boven water krijgen. Verder wordt in informantenstudies over het algemeen de prevalentie over een periode van één jaar gerapporteerd

terwijl in de meeste zelfrapportagestudies wordt gevraagd naar de ervaringen van deelnemers tijdens hun hele jeugd. In de langere tijdsperiode waarover gevraagd wordt in zelfrapportagestudies zullen meer gevallen van kindermishandeling plaatsgevonden hebben en naar boven komen.

Twee problemen van zelfrapportage ten opzichte van rapportage door informanten worden vaak genoemd. Ten eerste zijn er twijfels over de betrouwbaarheid van het geheugen van deelnemers als zij rapporteren over hun ervaringen met kindermishandeling. Informanten daarentegen rapporteren over het algemeen over gevallen van mishandeling die ze hebben waargenomen en die ze met bewijs kunnen staven. Het tweede veelgenoemde probleem betreft de subjectieve interpretatie van het concept kindermishandeling door deelnemers van zelfrapportagestudies terwijl beroepskrachten over het algemeen gehouden zijn aan een meer eenduidige interpretatie. Uit onderzoek blijkt echter dat deze problemen van zelfrapportage ten opzichte van rapportage door informanten (gedeeltelijk) opgevangen kunnen worden door te vragen naar concrete voorvallen van mishandelende gedragingen, in plaats globale vragen zoals 'Ben je wel eens fysiek mishandeld?' te stellen.

Verschillen in prevalentie tussen werelddelen
Verschillen tussen werelddelen in zelfgerapporteerde prevalentie werden alleen gevonden voor seksueel misbruik. Dit kwam bij meisjes het minst voor in Azië (113 per 1000) en Europa (135 per 1000) en het meest in Noord-Amerika (201 per 1000) en Australië (215 per 1000). Voor jongens kwam seksueel misbruik het minst voor in Azië (41 per 1000), Europa (56 per 1000) en Noord-Amerika (80 per 1000) en het meest in Afrika (193 per 1000).

Verschillen in prevalentie met betrekking tot methodologische kenmerken
Studies verschilden in hoe uitgebreid hun definitie van de diverse vormen van mishandeling was. In sommige studies naar fysieke mishandeling werd bijvoorbeeld aan deelnemers gevraagd of zij wel eens geslagen werden door hun ouders terwijl in andere studies werd gevraagd of zij wel eens geslagen, geschopt, gebeten, met een voorwerp geslagen, en door elkaar geschud werden door hun ouders. Zo'n uitgebreidere definitie, dus een definitie die meer mishandelende gedragingen bevat, hing voor seksueel misbruik onder meisjes en voor fysieke mishandeling samen met een hogere zelfgerapporteerde prevalentie. Frappant genoeg maakte de veelomvattendheid van definities voor de prevalenties van seksueel misbruik onder jongens en voor emotionele mishandeling geen verschil. Voor seksueel misbruik onder jongens zou dit te maken kunnen hebben met de ernst van het misbruik dat jongens ondergaan. De minst uitgebreide definitie van seksueel misbruik was penetratie, en penetratie maakte ook altijd deel uit van uitgebreidere definities. Het zou zo kunnen zijn dat jongens vaak penetratie ondergaan als zij seksueel misbruikt worden. Omdat penetratie onderdeel was

van alle definities van seksueel misbruik wordt er dan geen verschil in prevalentie gevonden tussen meer en minder uitgebreide definities.

Voor emotionele mishandeling bevatte de minst uitgebreide definitie over het algemeen alleen vragen over verbale mishandeling zoals het uitschelden van een kind. Uitgebreidere definities omvatten ook andere aspecten zoals opsluiten of dreigen met verlating. Waarschijnlijk is verbale mishandeling de meest voorkomende vorm van emotionele mishandeling die altijd voorkomt als er sprake is van andere vormen van emotionele mishandeling, en vonden we daarom geen verschillen in prevalentie tussen minder en meer uitgebreide definities.

Verder werden over het algemeen en voor de meeste vormen van kindermishandeling lagere prevalenties gevonden in zelfrapportagestudies met betere methodologische kenmerken. Het gaat hier bijvoorbeeld om studies die grote of gerandomiseerde steekproeven gebruiken. Dit zou gezien kunnen worden als indicatie dat de lagere prevalentiecijfers een correctere schatting zijn van de werkelijke prevalentie.

Implicaties voor onderzoek

'De waarheid ligt in het midden' is een veel gehoorde uitspraak die ook van toepassing zou kunnen zijn op de prevalentie cijfers die in dit proefschrift worden gepresenteerd. We vonden verschillen in zelfgerapporteerde prevalentie van mishandeling naar aanleiding van methodologische kenmerken, maar de grootste verschillen in prevalentie waren die tussen zelfrapportagestudies en studies die informantenrapportages gebruikten.

Voor toekomstig onderzoek zouden we graag een empirische studie zien waarin de zelfgerapporteerde prevalentie van alle vormen van kindermishandeling in één en dezelfde steekproef vergeleken wordt met de prevalentie die door informanten wordt gerapporteerd. Deze steekproef zou aselect getrokken moeten worden en zou representatief moeten zijn voor de populatie van een land. Bij een dergelijke vergelijkende studie zou hetzelfde scala aan mishandelende gedragingen moeten worden gebruikt bij de vragen voor zelfrapportage en als criteria voor informanten. Op die manier wordt de vergelijking tussen deze twee onderzoeksmethoden zo zuiver mogelijk gehouden. Daarnaast zouden de vragen aan deelnemers van de zelfrapportagestudie over concrete voorvallen van mishandelende gedragingen moeten gaan, om problemen met herinneringen zo veel mogelijk te ondervangen.

Nog mooier zou zijn om bovengenoemde vergelijkende studie tegelijkertijd, of in ieder geval binnen een zo kort mogelijke periode, in meerdere landen over de hele wereld uit te voeren zodat er ook een vergelijking tussen landen mogelijk is. In dat geval zouden de gebruikte definities voor alle vormen van mishandeling moeten aansluiten bij definities van internationale organen zoals de Wereldgezondheidsorganisatie. Een alternatief zou zijn om deze definitie, waar nodig, aan te vullen met gedragingen die aansluiten bij de landelijke criteria

van mishandeling om op deze manier de onderzoeksresultaten ook bruikbaar te maken voor beleidskwesties in de betreffende landen.

Conclusie

Kindermishandeling is een maatschappelijk probleem dat over de hele wereld op grote schaal en in allerlei vormen voorkomt. Zelfs als we uitgaan van de laagste schattingen van prevalenties die in dit proefschrift worden genoemd, gaat het om miljoenen kinderen. Het is dan ook zaak dat de aandacht voor de preventie van kindermishandeling en voor de preventie van ontwikkelingsproblemen bij mishandelde kinderen aanhoudt en wordt aangescherpt of geïntensiveerd. Want, zoals de titel van dit proefschrift aangeeft: *It should not hurt to be a child*.

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Rest mij alleen nog me af te vragen: Is dit nu het moment dat wordt bedoeld met *later, als ik groot ben*?

Curriculum Vitae

Curriculum Vitae

Marije Stoltenborgh werd geboren op 27 oktober 1965 in Soest. In 1983 behaalde zij haar VWO-diploma aan het Fioretti College te Lisse. In datzelfde jaar begon zij aan de opleiding tot receptioniste-informatrice bij Schoevers in Den Haag, waarvoor zij in 1984 een diploma haalde. Van 1985 tot 2002 was zij in dienst van de ABN (AMRO), waar zij doorgroeide van kassier tot accountmanager midden- en kleinbedrijf. In deze periode behaalde zij diverse bank- en verzekeringsvaktechnische diploma's. In september 2002 begon Marije aan de opleiding Pedagogische Wetenschappen aan de Universiteit Leiden, waar zij in 2006 de bacheloropleiding Gezinspedagogiek en in 2010 de research-masteropleiding Developmental Psychology met lof afrondde. Tijdens haar studie aan de Universiteit Leiden gaf zij werkgroepen voor diverse methodologische vakken binnen de bacheloropleiding Pedagogische Wetenschappen. Van 2009 tot 2012 werkte Marije als promovendus op de afdeling Algemene- en Gezinspedagogiek (AGP) van de Universiteit Leiden waar zij onderzoek deed naar de wereldwijde prevalentie van kindermishandeling. De resultaten van haar onderzoek zijn in dit proefschrift beschreven. Het artikel "*A global perspective on child sexual abuse: Meta-analysis of prevalence around the world*" (hoofdstuk 2 in het proefschrift) is gekozen tot beste artikel in het tijdschrift Child Maltreatment voor 2011. Momenteel is Marije bij AGP als post-doc onderzoeker onder andere betrokken bij het ontwikkelen van de VIPP-FC (Videofeedback Intervention to promote Positive Parenting – Foster Care) en bij het toetsen van de effectiviteit van deze interventie.

Lijst van publicaties (List of publications)

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