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THE PREVALENCE OF CHILD SEXUAL ABUSE:
INTEGRATIVE REVIEW ADJUSTMENT FOR
POTENTIAL RESPONSE AND MEASUREMENT BIASES

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Abstract—This integrative review synthesizes the findings of 16 cross-sectional surveys (25 hypotheses) on the prevalence of child abuse among nonclinical, North American samples. It is essentially a research literature on sexual abuse; only one of the studies assessed physical abuse, and there has not yet been a single study of prevalent child emotional abuse nor neglect. The following summative inferences were made: (1) response rates diminished significantly over time, $M = 68\%$ prior to 1985 and $M = 49\%$ for more recent surveys, $p < .05$; (2) unadjusted estimates of the prevalent experience among women and men of childhood sexual abuse was 22.3% and 8.5%, respectively; (3) study response rates and child abuse operational definitions together accounted for half of the observed variability in their abuse prevalence estimates, $R^2 = .500$, $p < .05$; (4) female and male child sexual abuse prevalence estimates adjusted for response rates (60% or more) were respectively, 16.8% and 7.9%, and adjusted for operational definitions (excluding the broadest, noncontact category) they were 14.5% and 7.2%; (5) after adjustment for response rates and definitions, the prevalence of child sexual abuse was not found to vary significantly over the three decades reviewed. Given the large human costs, both personal and social, of child abuse, and the identified gap in the requisite knowledge needed to steer effective preventive and treatment interventions, it is time to invest in a large, methodologically rigorous, population-based study of child abuse which, if it does nothing else, spares no expense in ensuring very high participation. © 1997 Elsevier Science Ltd

Key Words—Child abuse, Prevalence, Bias, Response rates, Abuse definitions.

INTRODUCTION

CHILDREN’S EXPERIENCE OF abuse and neglect has many deleterious consequences over both the short- and long-term; examples include: behavioral problems, poor self-esteem, feelings of isolation, depression, self-injurious behaviors including substance abuse, suicidal ideas and behaviors, revictimization, academic and vocational problems, sexual disfunctions, criminal behaviors, and so on (Beitchman et al., 1991; Beitchman et al., 1992; Crouch & Milner, 1993; Malinosky-Rummell & Hansen, 1993). Three decades of research on child abuse has clearly underscored its public health importance, however, the most basic questions in this field, that is, those which are concerned with the problem’s magnitude (prevalence and incidence) have not yet been unequivocally answered; prevalence estimates vary widely (ranging from 3% to 62%) across methodologically dissimilar samples of different people and times. Previous reviews, specifically, of child sexual abuse, have also disagreed on incident change; one estimated that there has been no change over the past 40 years, while another estimated a two-fold increase during the same period of time (Feldman et al., 1991; Leventhal, 1988). Alternatively, a Canadian survey concluded that the problem has diminished by one-third over the past 10 years (Bagley, 1990). Adding still more confusion to the issue are agency-based...
studies of clinical samples which tend to infer the increasing prevalence of abuse; caseloads have increased two- to four-fold over the past two decades (Lindsey, 1994, U.S. Department of Health and Human Services, 1988). Their findings may, in fact, be more parsimoniously explained by increased public and professional awareness of the problem, and their increasingly effective response to it through earlier identification, assessment, referral, and intervention.

The lack of empirically rigorous prevalence and incident change child abuse estimates represents more than an interesting research issue. Without a demonstrable problem baseline, it is not possible to examine the impact of changes in the treatment environment, societal attitudes, nor individual and family demographics. Furthermore, while in the short-term, high abuse estimates may lead to augmented resources for treatment and prevention, in the long-term, potentially invalid overestimates may lead to a perception of ineffective policies and treatments, which may then lead to diminished resource allocation. Thus, the possibility that child abuse estimates are inflated due to methodological bias has great practical significance for both practice and policy in this field.

This research literature balks at coherent summarization because of such disparate findings. Its divergent estimates of child abuse prevalence trends may be resultant from changes in a number of potentially salient factors: the true incidence of abuse, familial characteristics (Wodarski & Johnson, 1988), environmental characteristics such as socioeconomic status (Zuravin, 1989), and/or methodological ones. We are unaware of any study which has empirically examined the relationship of the later to child abuse prevalence estimates. For example: What is the relationship between study response rates and prevalence estimates? Previous reviews (Howing et al., 1989; Peters, Wyatt, & Finkelhor, 1986; Wyatt & Peters, 1986a; 1986b) and an independent study (Haugaard & Emery, 1989) have hypothesized or merely described the potentially confounding influence of selective participation or response bias, as well as other methodological variables (e.g., the diverse array of child abuse definitions represented in the extant literature) on prevalence estimation, but have not directly assessed the extent of such bias. The present study, an integrative review, will address these methodological concerns.

Health and social-behavioral survey response rates have declined significantly over the past three decades (Pottick & Lerman, 1991). For example, a meta-analysis of 21 hypertension surveys found that prior to 1975, one-quarter of the studies reported response rates less than 70%, however, more than two-thirds of the more recent surveys had response rates below this criterion (Gorey & Trevisan, unpublished). Moreover, the potentially confounding influence of this phenomenon is underscored by research findings on responders/participators versus those who choose not to be included in social, behavioral, or biomedical research. Response status has consistently been found to be associated with a number of participant characteristics such as age and socioeconomic status, but most importantly, response is typically highly associated with the problem under investigation (Bigger & Melbye, 1992; Criqui, Barrett-Connor, & Austin, 1978; Forthofer, 1983; Gorey, Rice, & Brice, 1992; Vernon, Roberts, & Lee, 1982). For example, in empirically reviewing 17 studies on the prevalence of employed people providing direct care for older people, Gorey and colleagues (1992) found the estimate of "elder caregiving" among studies with high response rates (60% or higher) to be approximately 10%, while the less rigorous studies' average estimate was more than two-fold greater (25%), perhaps a gross overestimation of the truth.

Such demonstrable bias may also intrude into the research literature on child abuse prevalence. Indeed, given its great methodological variability (e.g., response rates vary from 48%–99%; Finkelhor, 1994), it is likely that the research in this field is unintelligible without accounting for such potential bias. The present integrative review empirically examines this concern; it predicts that substantial variability among child abuse prevalence estimates will be explained by the study methodological characteristics of response rate and child abuse definitions.
Prevalence of child sexual abuse

METHOD

Computerized data bases of Psychological, Sociological, and Social Work Abstracts, and Index Medicus were searched (1965 to the present) on the following key word scheme: child abuse, neglect or maltreatment (sexual, physical, or psychological/emotional) and prevalence, incidence, survey, or epidemiology. The "published" peer-reviewed press was employed as a sampling frame to provide some measure of quality assurance; conference proceedings, unedited monographs, dissertations and government documents were excluded. However, as this review's hypothesis (i.e., response rate-estimated prevalence of child sexual abuse association) was not the central concern of any of the original studies, publication bias is not likely to be a potent alternative explanation for its integrative or meta-findings. These searches were then augmented with bibliographic reviews of relevant manuscripts which estimated the prevalence of child abuse among nonclinical, North American samples. Studies of clinical or registry-based samples were excluded because historical (e.g., political [legislative] and cultural) confounders associated with increasingly more effective case identification strategies would most assuredly fatally flaw any panel comparisons of their child abuse prevalence estimates. A total of 16 studies were retrieved; they comprise this integrative review's sample (see References—Special Section). Aggregating samples across categorically similar studies, prevalence estimates were compared across response rates and child abuse definitions.

RESULTS

Sample Description

This review's sample of 16 studies on the prevalent past experience of child (less than 18 years of age) abuse among adults (18 years of age or older) arose primarily from United States populations (n = 14, 87%; the remaining two were Canadian studies) during the past 25 years (data were collected from 1969 to 1991, Mdn = 1983). Slightly more than two-thirds (68%) of their aggregate respondent sample was female. This is not a surprising gender distribution given that six of the primary studies sampled women only, while only one of them exclusively sampled men. Twelve (75%) of the reviewed studies randomly sampled from general population sampling frames; the remaining four convenience sampled from such "captive audiences" as college students. These diverse samples (ranged from 248 to 3,520 respondents, Mdn = 1,040) were then interviewed using a variety of methods: six each face-to-face and mail surveys, and four telephone surveys.

Response rates and definitions of abuse. Response rates among the 16 reviewed studies (25 research questions/hypotheses) varied widely from 25% to 98%. On average, less than two-thirds of the people contacted agreed to participate (Mdn = 64.0%, M = 62.2%, SD = 17.6). The criterion of 60% has been suggested as characterizing a "good" survey (Babbie, 1989); 13 of the samples met this criterion and 12 did not. Moreover, response rates in this field of inquiry have diminished significantly over time: data collected from 1969 to 1984 (M = 68.2%, SD = 14.6) versus 1985 or later (M = 49.4%, SD = 17.6); F(1, 23) = 6.98, p < .05. Given the known associations of response status with numerous study variables of interest (health status and problems-in-living) and more specifically, its likely association with this review's central variable of interest, that is, child abuse, response bias may itself account for any observed change in the prevalence of child abuse over time. This potential alternative or confound hypothesis is examined empirically in the proceeding section.

The nature of the question being posed is the centerpiece of a study's design. Obviously, how a question is asked may greatly influence responses to it. The studies of child abuse
prevalence among nonclinical populations which have been published thus far almost exclusively assess sexual abuse (15 of the 16 included in this review); only one assessed physical abuse. We are not aware of a single extant study on similar prevalent child psychological or emotional abuse, nor of child neglect. Even the operational definitions of child sexual abuse varied widely, from very narrow definitions (e.g., forced intercourse, less than 1 week) to much broader ones (e.g., ever [as a child] experienced any of eight sexual behaviors with an adult—exhibitionism through fondling to intercourse). Consequently, this factor will also be accounted for in the proceeding analysis.

Prevalence of Child Abuse

Aggregating all 25 of the samples, the estimated prevalence of child sexual abuse was found to be 22.3% among women and 8.5% among men, a finding which is certainly consistent with known gender differences on abuse. Also consistent with popularly held notions, as well as with the majority of previously reported research in this field; the unadjusted comparisons of recent versus earlier research indicated that the prevalence of such abuse among both women and men has increased significantly (see top of Table 1). However, this trend is confounded by the above noted concomitant decrease in study response rates during the same period of time.

Response and measurement biases. As expected, the estimated prevalence of child abuse was inversely associated with study response rate. For example, among aggregated female samples, the child abuse prevalence estimate among poor response surveys (27.8%) was two-thirds

<table>
<thead>
<tr>
<th>Characteristic Group</th>
<th>Number of Studies</th>
<th>Aggregate Samplea</th>
<th>Prevalence of Abuse (%)</th>
<th>Prevalence Ratio (95% CI)b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year Data Collected</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>1969–1983</td>
<td>8</td>
<td>6,158</td>
<td>20.1c</td>
<td>1.16 (1.09, 1.24)</td>
</tr>
<tr>
<td>1984 or later</td>
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<td>23.3</td>
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</tr>
<tr>
<td>Male</td>
<td></td>
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<tr>
<td>1969–1983</td>
<td>5</td>
<td>3,357</td>
<td>5.7</td>
<td>2.09 (1.79, 2.44)</td>
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<tr>
<td>1984 or later</td>
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<td>2,099</td>
<td>11.9</td>
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<tr>
<td>Response Rate</td>
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</tr>
<tr>
<td>Female</td>
<td></td>
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<tr>
<td>60% or more</td>
<td>8</td>
<td>7,116</td>
<td>16.8</td>
<td>1.65 (1.55, 1.76)</td>
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<tr>
<td>Less than 60%</td>
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<tr>
<td>Male</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>60% or more</td>
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<td>3,429</td>
<td>7.9</td>
<td>1.13d (0.97, 1.32)</td>
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<tr>
<td>Less than 60%</td>
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<td>8.9</td>
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<td>Child Abuse Definitionc</td>
<td></td>
<td></td>
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<tr>
<td>Female</td>
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<td></td>
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</tr>
<tr>
<td>Narrow</td>
<td>4</td>
<td>2,385</td>
<td>8.3</td>
<td>2.14 (1.87, 2.45)</td>
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<tr>
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<td>4.36 (3.88, 4.91)</td>
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<tr>
<td>Narrow</td>
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<td>472</td>
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<td>1.09 (0.77, 1.54)</td>
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<td>7.2</td>
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<tr>
<td>Broad</td>
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<td>4,481</td>
<td>11.5</td>
<td>1.74 (1.25, 2.43)</td>
</tr>
</tbody>
</table>

a Combined samples across studies in category.

b Confidence intervals are chi-square test-based (Miettinen, 1976).

c Baseline for prevalence ratio (PR) calculation.

d Significant at \( p < .10; \) 90% CI = 1.00, 1.31.

e Examples of operational definitions: narrow—'severe' sexual abuse, involved force, for less than one week; broad—ever experienced any of four to eight sexual behaviors with an adult, from exhibitionism through fondling to intercourse.
greater than that estimated among so-called ‘good’ surveys, ones with response rates of 60% or greater (16.8%); prevalence ratio (PR) = 1.65, 95% confidence interval (CI = 1.55, 1.76). A similar inverse association which approached statistical significance (90% CI, or \( p < .10 \)) was observed among the aggregated male samples. Also, as one would intuitively expect, the use of broader operational definitions of child sexual abuse (e.g., those including forms of noncontact abuse such as exhibitionism) resulted in significantly greater prevalence estimates than narrower ones (see bottom of Table 1). Female and male child sexual abuse prevalence estimates adjusted for operational definitions (excluding the broadest, noncontact category) respectively were 14.5% and 7.2%. Next, a multiple linear regression with each study’s total sample estimated child abuse as the criterion (\( \frac{\text{aggregate prevalence}_{\text{female}} + \text{prevalence}_{\text{male}}}{2} \), mean substitution for missing data) was run. Together, these two study methodological characteristics accounted for half of the variability among abuse prevalence estimates (\( R^2 = .500; \) response rates, 11% \( [\beta = .228, p < .05] \) and operational definitions, 39% \( [\beta = .631, p < .05] \)), \( F(2, 13) = 9.51, p < .05 \). In fact, after these two factors entered the linear regression model, none of the other study characteristics (year of data collection, Canada vs. U.S., sample size, probability or convenience sample, general population or college sample, interview method) entered.

DISCUSSION

Interpretation of the extant body of research on the prevalence of child abuse ought to be accompanied by extreme cognizance of study characteristics. The two study methodological characteristics of response rates and abuse operational definitions account for half of the variability among reported outcomes on estimated child sexual abuse prevalence. In fact, the trend of increasing child abuse previously observed by some may be a mere methodological artifact, a function of decreasing survey participation over time. This study’s finding of an inverse response rate-child abuse prevalence association (the greater a study’s response rate, the lower its prevalence estimate) is consistent with that of a previous survey which observed this phenomenon across three separate samples (response rates of 25%, 42%, and 74%; Haugaard & Emery, 1989); it replicates their finding across all 16 of the surveys in the field. Both support the notion that adults who have experienced child abuse are more likely to respond to such surveys than their nonabused counterparts are. The telling of their stories in an anonymous forum may provide them with a catharsis, an opportunity to break through their isolation while maintaining a safe interpersonal distance. This simple methodological characteristic has a great impact on the inferences one may make from this aggregate research literature. A simple unadjusted summarization of all of the studies infers that approximately 22% and 9% of women and men, respectively, were sexually abused as children, whereas, restricting the analysis to only those samples with 60% or greater response rates, results in the lower, and perhaps more valid, prevalence estimates of 17% and 8%. It should be noted here that the average response even among these ‘‘good’’ surveys was only 69%. Conservatively adjusting for this potential bias (assuming that none of the nonrespondents were abused), abuse estimates of 12% and 5% may be inferred. The truth probably lies somewhere between these two adjusted estimates: females (12%–17%) and males (5%–8%). A final caveat ought to be recalled; this extant literature on child abuse prevalence nearly exclusively assesses sexual abuse. Prevalence estimates of emotional abuse, for example, or neglect, which have not yet been directly assessed, may be expected to be two-fold greater or more (Chambers, 1995).

All of the above summarized review-generated findings ought to be confirmed (or refuted) with primary research (Cooper, 1989). Not a single large, population-based study with probability sampling and a very high rate of participation has yet been reported in this field’s peer-
reviewed press (extant studies with response rates greater than 90% were convenience sampled). Such a study is sorely needed. While it is true that such a study, employing multiple procedures to ensure very high participation (e.g., generous monetary remuneration for participation, multiple nonrespondent follow-up, and so on) would be relatively expensive, its resultant information value may be expected to exceed that of all 16 previous studies in this field combined. Practice methods are presently being developed and show promise for effective treatment and ultimate prevention of child abuse (Berrick & Barth, 1992; de Jong & Gorey, 1996; Richter, Snider, & Gorey, 1997), however, valid baselines will eventually be needed to more rigorously assess related policies and programs. An epidemiologic strategy for knowledge building about a disease/problem typically follows the following linear strategy: (1) frequency; (2) distribution; (3) correlates/determinants; and (4) treatment. Concerning the research agenda on child abuse, from a practical standpoint, to take pause, go back, and validly answer level-one questions concerning abuse frequency (prevalence) would go a long way toward facilitating effective practice as well as other research in this field.

REFERENCES

Prevalence of child sexual abuse


REFERENCES—SPECIAL SECTION


Résumé—Cette revue intégrée fait la synthèse de 16 études transversales (25 hypothèses) sur la prévalence de la maltraitance dans des échantillons Nord-Américains non-cliniques. Il s’agit surtout d’une recherche de la littérature sur l’abus sexuel; seule une étude a évalué les mauvais traitements physiques, et il n’y a pas encore eu une seule étude concernant la prévalence de la maltraitance psychologique ni de la négligence. Les inférences additives suivantes ont été effectuées: (1) les taux de réponses diminuaient au cours du temps de façon significative, M = 68% avant 1985 et M = 49% pour des études plus récentes, p < .05; (2) des estimations non-corrigées de l’expérience prévalente d’abus sexuel était de 22,3% parmi les femmes et de 8,5% parmi les hommes; (3) les taux de réponse de études et les définitions opérationnelles de maltraitance étaient responsables pour la moitié de la variabilité observée dans leurs estimations de la prévalence de la maltraitance, R² = .500, p < .05; (4) les estimations de la prévalence d’abus sexuels chez les filles et les garçons, corrigées pour les taux de réponse (60% ou plus) étaient respectivement de 16,8% et de 7,9% et corrigées pour les définitions opérationnelles (excluant la catégorie la plus large, c’est à dire celle sans contact) elles étaient respectivement de 14,5% et de 7,2%); (5) après correction pour les taux de réponse et les définitions, la prévalence de l’abus sexuel au cours de l’enfance ne variait pas de façon significative au cours des 3 décades observées. Etant donné l’importance des coûts humains, à la fois personnels et sociaux que la maltraitance
Resumen—En esta revisión se sintetizan los resultados de 16 investigaciones (25 hipótesis) sobre la prevalencia de maltrato infantil en muestras norteamericanas no clínicas. Se trata, fundamentalmente, de una revisión de la literatura sobre el abuso sexual, ya que solo un estudio evalúa el maltrato físico y no hay ninguno sobre la prevalencia del maltrato emocional o del abandono. Se realizaron las siguientes inferencias: (1) las tasas de respuesta disminuyen de manera significativa a lo largo del tiempo, $M = 68\%$ antes de 1985 y $M = 49\%$ para los estudios más recientes, $p < .05$; (2) las estimaciones globales sobre la prevalencia de experiencias de abuso sexual infantil entre mujeres y hombres era del 22.3% y del 8.5%, respectivamente; (3) las tasas de respuesta a cada estudio y las definiciones utilizadas sobre el maltrato infantil, en conjunto, explicaron la mitad de la variabilidad observada en sus estimaciones de la prevalencia del abuso, $R^2 = .500$, $p < .05$; (4) una vez controlado el efecto de las tasas de respuesta (60% o más), la prevalencia estimada de abuso sexual infantil para mujeres y varones era del 16.8% y 7.9%, respectivamente; realizado el control sobre las definiciones de abuso (se excluyeron las más amplias y las que incluyan categorías sin contacto físico) las estimaciones de prevalencia eran de 14.5% para las mujeres y de 7.2% para los varones; (5) después de controlar tanto las tasas de respuesta y las definiciones, la prevalencia del abuso sexual infantil observada no varía significativamente a lo largo de las tres décadas revisadas. Dado el gran costo humano, tanto personal como social, del maltrato infantil, y la laguna identificada en los conocimientos necesarios para llevar a cabo intervenciones preventivas y terapéuticas efectivas, se considera que es el momento para invertir esfuerzo en estudios del maltrato infantil, amplios metodológicamente rigurosos y basados en población general, que, si no hacen nada más, no ahorren recursos en asegurar tasas muy altas de participación.