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Childhood sexual abuse and adult developmental outcomes: Findings from a 30-year longitudinal study in New Zealand☆

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ABSTRACT

Objectives: Childhood sexual abuse (CSA) has been associated with many adverse medical, psychological, behavioral and socioeconomic outcomes in adulthood. This study aims to examine the linkages between CSA and a wide range of developmental outcomes over a protracted time period to age 30.

Methods: Data from over 900 members of the New Zealand birth cohort the Christchurch Health and Development Study were examined. CSA prior to age 16 was assessed at ages 18 and 21 years, in addition to: mental health, psychological wellbeing, sexual risk-taking behaviors, physical health and socioeconomic outcomes to age 30.

Results: After statistical adjustment for confounding by 10 covariates spanning socio-demographic, family functioning and child factors, extent of exposure to CSA was associated with increased rates of (*B*, *SE*, *p*): major depression (0.426, 0.094, <.001); anxiety disorder (0.364, 0.089, <.001); suicidal ideation (0.395, 0.089, <.001); suicide attempt (1.863, 0.403, <.001); alcohol dependence (0.374, 0.118, <.002); and illicit drug dependence (0.425, 0.113, <.001). In addition, at age 30 CSA was associated with higher rates of PTSD symptoms (0.120, 0.051, .017); decreased self-esteem (−0.371, 0.181, .041); and decreased life satisfaction (−0.510, 0.189, .007). Childhood sexual abuse was also associated with decreased age of onset of sexual activity (−0.381, 0.091, <.001), increased number of sexual partners (0.175, 0.035, <.001); increased medical contacts for physical health problems (0.105, 0.023, <.001); and welfare dependence (0.310, 0.099, .002). Effect sizes (Cohen's *d*) for the significant outcomes from all domains ranged from .14 to .53, while the attributable risks for the mental health outcomes ranged from 5.7% to 16.6%.

Conclusions: CSA is a traumatic childhood life event in which the negative consequences increase with increasing severity of abuse. CSA adversely influences a number of adult developmental outcomes that span: mental disorders, psychological wellbeing, sexual risk-taking, physical health and socioeconomic wellbeing. While the individual effect sizes for CSA typically range from small to moderate, it is clear that accumulative adverse effects on adult developmental outcomes are substantial.

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Over the past three decades, there has been extensive research into the impact of childhood sexual abuse (CSA) on psychological wellbeing (Fergusson & Mullen, 1999; Hillberg, Hamilton-Giachritsis, & Dixon, 2011; MacMillan et al., 2009; Maniglio, 2009; Putnam, 2003). The weight of the evidence from this research suggests that exposure to CSA (and particularly CSA involving sexual penetration) is associated with a wide range of medical, psychological, behavioral and sexual disorders including: mental health problems (Cutajar et al., 2010; Dinwiddie et al., 2000; Fergusson, Horwood, & Lynskey, 1996; Hillberg et al., 2011; Maniglio, 2010; Putnam, 2003), substance use disorders (Fergusson, Horwood et al., 1996; Kendler et al., 2000; Nickel et al., 2004), suicidal behaviors and self-harm (Neumann, Houskamp, Pollock, & Briere, 1996; Nickel et al., 2004; Paolucci, Genuis, & Violato, 2001), sexual risk-taking (Fergusson, Horwood, & Lynskey, 1997; Paul, Catania, Pollack, & Stall, 2001; Roberts, O'Connor, Dunn, Golding, & The ALSPAC Study Team, 2004; Senn, Carey, & Coury-Doniger, 2011), Post-Traumatic Stress Disorder (PTSD) (Paolucci et al., 2001; Putnam, 2003), lowered self-esteem (Griffing et al., 2006; Jumper, 1995; Mullen, Martin, Anderson, Romans, & Herbison, 1996; Roberts et al., 2004), lowered life satisfaction (Nickel et al., 2004; Roberts et al., 2004), physical health problems (Anda, Tietjen, Schulman, Felittei, & Croft, 2010; Irish, Kobayashi, & Delahanty, 2010; Najman, Nguyen, & Boyle, 2007) and educational underachievement (Boden, Horwood, & Fergusson, 2007; Currie & Spatz Widom, 2010; Noll et al., 2010).

An important issue in this area of research concerns the measurement of CSA. In many studies, the assessment of CSA has been obtained retrospectively from reports of adults describing their childhood. These measures may be subject to errors of reminiscence including forgetting and recall biases (Gilbert et al., 2009; Spatz Widom & Morris, 1997). For these reasons, some authors have advocated using samples of children coming to official attention for CSA (Spatz Widom & Morris, 1997). This design makes it possible to conduct fully prospective studies of the associations between CSA and subsequent outcomes. However, these advantages are offset by the fact that samples of children coming to official attention for CSA are unlikely to be representative of all children subject to CSA. This factor introduces unknown sources of sample selection bias into studies based on these samples. An alternate approach is to use retrospectively collected information to develop statistical models of reporting error and recall bias.

In a recent paper, we have examined the extent to which retrospective reports of CSA obtained at ages 18 and 21 in a New Zealand birth cohort were subject to recall bias using a general structural equation model (Fergusson, Horwood, & Boden, 2011). This analysis suggested the contemporaneous effects of mental state on the reporting of CSA were negligible and that the observed correlations between reports of CSA and mental health outcomes closely approximated the correlations between CSA and mental health outcomes corrected for both reporting error and recall bias. These findings suggest that claims about the limitations of retrospective reporting of CSA may have been overstated and that well collected retrospective reports may provide valid measures of CSA. In this paper, we use this approach by using a composite measure of CSA which combines reports gathered at ages 18 and 21 years.

Another issue in the assessment of the impact of CSA on adult outcomes concerns the possible role of confounding factors. It has been well documented that CSA is correlated with a range of other childhood adversities. These adversities span, for example, measures of socioeconomic disadvantage, family violence and other forms of child maltreatment (Fassler, Amodeo, Griffin, Clay, & Ellis, 2005; Felitti et al., 1998; Frothingham et al., 2000; Hecht & Hansen, 2001; Nash, Hulsey, Sexton, Harralson, & Lambert, 1993; Putnam, 2003). Therefore, it is important to adjust associations between CSA and later outcomes for social and contextual factors correlated with CSA. The best approach for achieving this is through a longitudinal design in which associations between CSA and subsequent outcomes are adjusted for prospectively assessed covariate factors.

While there has been a growing literature in the psychosocial consequences of CSA, most studies have focused on a limited range of outcomes. Few studies have examined the consequences of CSA across a wide range of outcomes assessed over a protracted time period. One exception to this was the research reported by Trickett, Noll, and Putnam (2011). This study comprised of 84 females with substantiated CSA and a matched sample of 82 controls over a 23-year period on a large number of outcome variables. This study concluded that sexually abused females showed deleterious sequelae across a host of biopsychosocial domains. However, the findings of this study were limited by: (a) the use of a selected sample coming to official attention; (b) restriction of the study to females; and (c) limited control of confounding factors.

In this paper, we address these issues by using data gathered over the course of a 30-year longitudinal study to examine the linkages between reports of CSA at ages 18 and 21 and subsequent mental health from 18 to 30 years, psychological wellbeing at 30 years, sexual risk-taking behaviors to age 30, physical health at 30 years and socioeconomic outcomes to age 30.This longitudinal design had the following advantages:

1. As noted above, the longitudinal design made it possible to examine the effects of contemporaneous mental state on the reporting of CSA and to take into account reporting error.
2. The longitudinal design made it possible to adjust the associations between reports of CSA and subsequent outcomes for prospectively measured covariate factors. These factors included socio-demographic background, family functioning and child factors known to be correlated with reported CSA (see Table 2).
3. The longitudinal design made it possible to examine the linkages between CSA and a wide range of developmental outcomes over a protracted time period (up to 30 years).