

Journal Highlights

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The Cost of Child Maltreatment

Using secondary data to develop cost per case estimates, Fang et al. used attributable costs whenever possible or estimated costs as the product of incremental effect of child maltreatment on a specific outcome multiplied by the estimated cost associated with that outcome. The estimate of the aggregate *lifetime* cost of child maltreatment in 2008 was obtained by multiplying per-victim lifetime cost estimates by the estimated cases of new child maltreatment in 2008. They estimated that the average lifetime cost per victim of nonfatal child maltreatment is \$210,012 in 2010 dollars, which is \$32,648 in childhood health care costs; \$10,530 in adult medical costs; \$144,360 in productivity losses; \$7,728 in child welfare costs; \$6,747 in criminal justice costs; and \$7,999 in special education costs. The estimated average lifetime cost per death is \$1,272,900, which is \$14,100 in medical costs and \$1,258,800 in productivity losses. Therefore, the authors calculate that the total lifetime economic burden resulting from new cases of fatal and nonfatal child maltreatment in the United States in 2008 is \$124 billion.

In another report from Prevent Child Abuse America, Richard Gelles and Stacie Perlman expand prior calculations of the annual cost of child abuse and neglect in the United States. Based on their calculations, child abuse and neglect affects over 1 million children every year and costs our nation \$220 million every day. They estimate that the total direct and indirect cost to address U.S. child abuse and neglect in 2012 is \$80 billion. Unlike the Fang et al. study above, all costs reported are the *annual* costs associated with child maltreatment (and not lifetime costs), using today's costs for investigations, foster care, medical and mental health treatment, as well as future costs for special education, juvenile and adult crime, chronic health problems, and other costs across the life span.

To the extent that that child abuse is preventable, these costs can be reduced. In a meta-analysis, Dalziel and Segal systematically reviewed trials reporting child maltreatment outcomes of home visitation programs to identify their cost effectiveness in reducing maltreatment. Information on program effectiveness and program components were taken from identified studies to which 2010 Australian unit costs had been applied. Lifetime

cost offsets associated with maltreatment were derived from a recent Australian study. Cost-effectiveness results were estimated as program cost per case of maltreatment prevented and net benefit was estimated by incorporating downstream cost savings. The incremental cost of home visiting compared with usual care ranged from A\$1800 to A\$30,000 (US\$1,800–US\$30,000) per family. Cost-effectiveness estimates ranged from A\$22,000 per case of maltreatment prevented to several million. Seven of the 22 programs (32%) of at least adequate quality were cost saving when including lifetime cost offsets. The authors concluded that there is wide variation in the cost-effectiveness of the programs measured, and care must be taken to optimize program quality and cost savings and to include lifetime costs saved in cost-effectiveness calculations.

Dalziel, K., & Segal, L. (2012). Home visiting programmes for the prevention of child maltreatment: Cost-effectiveness of 33 programmes. *Archives of Disease in Childhood*, 97(9), 787–798.

Fang, X., Brown, D. S., Lawrence, C. S., & Mercy, J. A. (2012). The economic burden of child maltreatment in the United States and implications for prevention. *Child Abuse & Neglect*, 36, 156–165.

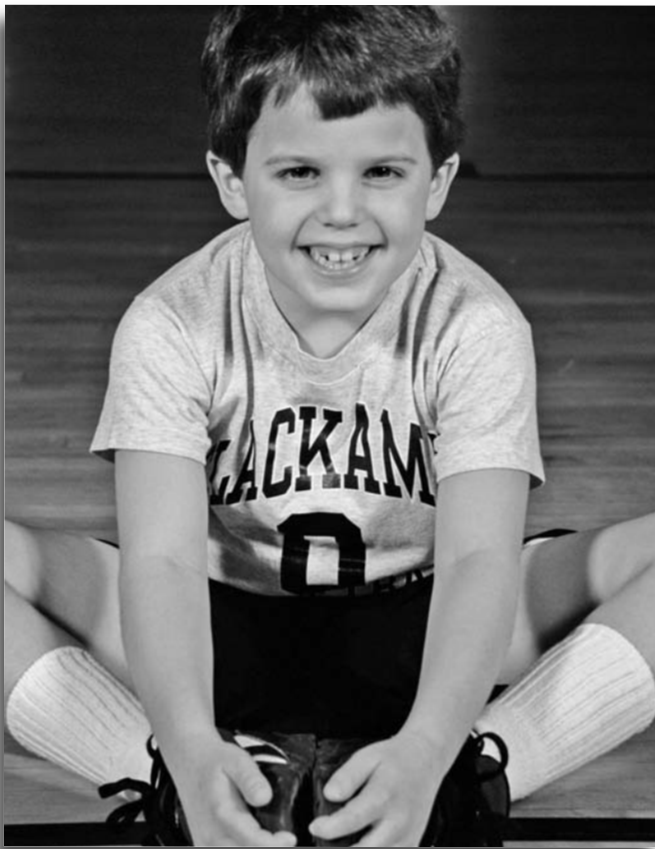
Gelles, R. J., & Perlman, S. (2012). *Estimated Annual Cost of Child Abuse and Neglect*. Chicago: Prevent Child Abuse America.



Neighborhood, SES, and Neglect

Neglect remains the most common and the most understudied form of maltreatment. To broaden our understanding of its causes, Stoltenborgh et al. searched for studies providing prevalence rates of child neglect using electronic databases, specialized journals, and references of publications for other relevant studies. Child physical neglect prevalence rates were found for 13 independent samples with a total of 59,406 participants, and child emotional neglect prevalence rates were found for 16 independent samples with a total of 59,655 participants. The overall estimated prevalence was 163/1,000 for physical neglect, and 184/1,000 for emotional neglect, with no apparent gender differences. Research design factors affected these calculations more for physical neglect than they did for emotional neglect, and studies on physical neglect in “low-resource” countries were conspicuously absent. They conclude that there is a dearth of information about neglect, especially among low-resource populations.

Does poverty lead to neglect? Chauhan and Widom approach this question by examining whether childhood maltreatment increases the risk of living in neighborhoods with less desirable characteristics (i.e., more disorder and disadvantage, less social cohesion, social control and advantage, and fewer resources) in



middle adulthood and whether these neighborhood characteristics influence subsequent illicit drug use. Using a prospective cohort design study, adults with court-documented cases of childhood abuse and neglect and matched controls (n = 833) were first interviewed as young adults at mean age 29 years and again in middle adulthood at mean age of 40–41 years. Individuals with histories of childhood abuse and neglect were more likely to live in neighborhoods with more disorder and disadvantage and less social cohesion and advantage compared with controls and to engage in illicit drug use during the past year. Path analyses showed an indirect effect on illicit drug use via neighborhood disorder among maltreated children, even after accounting for drug abuse symptoms in young adulthood, although this was sex specific and race specific, affecting women and Whites. Overall, child abuse and neglect places children on a negative trajectory that dynamically influences negative outcomes associated with poverty at multiple levels into middle adulthood.

But do poverty and living in a poor neighborhood really result in neglect, or are mandated reporters biased to report more cases from these populations? To measure the influence of race and socioeconomic status (SES) on the diagnosis of child abuse and willingness to report to child protection services, Laskey et al. surveyed pediatricians randomly selected from the American Medical Association’s Masterfile. Each received 1 of 4 randomly assigned versions of a fictional clinical presentation of a child (Black/White + high SES/low SES) that described an unwitnessed event in a mobile 18-month-old child resulting in an oblique femur fracture. Pediatricians were asked to rank the degree to which the injury was accidental versus abuse and their agreement with reporting the injury to child protection services. A total of 2,109 of 4,423 physicians responded (47.7%). Patient race did not have an effect on the diagnosis of abuse (Black, 45%, versus White, 46%), but abuse was more likely to be diagnosed in patients with low SES (48% versus 43%, overall). They concluded that physicians have greater willingness to consider abuse as a potential cause of injury in low-SES children and suggest that we need future studies to understand if there remains a differential approach to evaluating minority children for abuse in real-world settings.

Chauhan, P., & Widom, C. S. (2012). Childhood maltreatment and illicit drug use in middle adulthood: The role of neighborhood characteristics. *Development and Psychopathology, 24*, 723–738.

Laskey, A. L., Stump, T. E., Perkins, S. M., Zimet, G. D., Sherman, S. J., & Downs, S. M. (2012). Influence of race and socioeconomic status on the diagnosis of child abuse: A randomized study. *Journal of Pediatrics, 160*, 1003–1008.

Stoltenborgh, M., Bakermans-Kranenburg, M. J., & van Ijzendoorn, M. H. (2012, July 15). The neglect of child neglect: A meta-analytic review of the prevalence of neglect. *Social Psychiatry and Psychiatric Epidemiology*. Published Online: doi: 10.1007/s00127-012-0549-y

Infanticide and Biology

Why do parents kill their infants? While there has been no direct evidence that biologic factors directly contribute to child maltreatment or infanticide, there have been several attempts to understand these influences and moderating effects on aggressive behavior using animal models. Dr. Ray Helfer researched infant mortality in nonhuman primates and found that those raised in captivity that never saw a mother caring for her young had no idea how to feed their young, keep it warm, or protect it from danger. Sarah Hrdy and others have found that, in natural conditions, almost all lethal injuries to immature primates are inflicted by females or males other than the biologic parent. Silk et al. have found that female baboons that form strong bonds with kin and other group members live longer, supporting the concept that a mother's social support is protective across the life span. Conversely, social isolation increases the risk of disease, accidents, and a range of mental disorders and stress. Social integration is thought to be the cause and not the consequence of improved health outcomes, moderating the deleterious effects of chronic stress and improving cardiovascular, endocrine, and immune system function.

To explore a hypothesis concerning the potential evolutionary benefit of neonaticide to improve the mother's condition and future offspring, Ciani and Fontanesi used 110 cases of mothers killing 123 of their own offspring from 1976 to 2010 to assess whether neonaticides (killings of children within the first day of life) satisfy all evolutionary predictions for an evolved behavioral, emotional, and motivational pattern to increase fitness. They found that relatively young, poor women with no partner kill their offspring nonviolently, either directly or through abandonment, and they attempt to conceal the body. These women have no psychopathology and never attempt suicide after killing their children. Infanticide (killing of children within the first year of life) and filicide (killing of children after the first year of life) mothers significantly differ from those with neonaticide. The common profile of mothers who have committed infanticide or filicide includes psychopathology, suicide, or attempted suicide after killing their children, violent killing of their victims, and no attempt to conceal the victims' bodies. They conclude that neonaticide is an adaptive reproductive disinvestment, possibly evolved in the remote past, to increase the biological fitness of the mother by eliminating an unwanted newborn and saving resources for future offspring born in better conditions. These differences in the mother's motivation and mental status among primates indicate that neonaticide is distinct from infanticide and filicide and therefore should be approached, prevented, and judged differently.

Vellut, Cook, and Tursz examined the association between neonaticide and denial of pregnancy and its usefulness as a concept in programs to prevent neonaticide. Using cases collected

from judicial files during a population-based study carried out in 26 courts in three regions of France over a 5-year period, they found 32 cases of neonaticides. Twenty-four were perpetrated by 22 mothers and were solved by police investigation. Aged 26 years on average, the mothers had occupations that resembled those of the general population, and 17 had jobs, 13 were multiparous, and 11 lived in a couple relationship. No effective contraception was used by women in 20 cases. Psychopathology was rare but mothers shared a personality profile marked by immaturity, dependency, weak self-esteem, absence of affective support, psychological isolation, and poor communication with partners. No pregnancy was registered nor did prenatal care follow. Pregnancies were experienced in secrecy and accompanied by conflicting feelings of desire and rejection of the infant and an inability to ask for help. They conclude that the term *denial of pregnancy* cannot fully reflect the complexity of emotions and feelings felt by all perpetrators of neonaticide. Its excessive generalization contributes to pathologizing women and has little operational value in preventing neonaticide. The authors suggest rethinking the terms presently used to describe the phenomenon of pregnancy denial to better intervene and prevent future deaths.

Ciani, A. S. S., & Fontanesi, L. (2012). Mothers who kill their offspring: Testing evolutionary hypothesis in a 110-case Italian sample. *Child Abuse & Neglect*, *36*, 519–527.

Hrdy, S. B. (1976). The care and exploitation of nonhuman primate infants by conspecifics other than the mother. In J. S. Rosenblatt, R. Hinde, E. Shaw, & C. Beer (Eds.), *Advances in the study of behavior*, *6* (pp. 101–158). New York: Academic Press.

Silk, J. B., Beehner, J. C., Bergman, T. J., Crockford, C., Engh, A. L., Moscovice, L. R., Wittig, R. M., Seyfarth, R. M., & Cheney, D. L. (2010). Strong and consistent social bonds enhance the longevity of female baboons. *Current Biology*, *20*, 1359–1361.

Vellut, N., Cook, J. M., & Tursz, A. (2012). Analysis of the relationship between neonaticide and denial of pregnancy using data from judicial files. *Child Abuse & Neglect*, *36*, 553–563.

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