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Do race, neglect, and childhood poverty predict physical health in adulthood? A multilevel prospective analysis☆

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ABSTRACT

Childhood neglect and poverty often co-occur and both have been linked to poor physical health outcomes. In addition, Blacks have higher rates of childhood poverty and tend to have worse health than Whites. This paper examines the unique and interacting effects of childhood neglect, race, and family and neighborhood poverty on adult physical health outcomes. This prospective cohort design study uses a sample ($N = 675$) of court-substantiated cases of childhood neglect and matched controls followed into adulthood ($M_{age} = 41$). Health indicators (C-Reactive Protein [CRP], hypertension, and pulmonary functioning) were assessed through blood collection and measurements by a registered nurse. Data were analyzed using hierarchical linear models to control for clustering of participants in childhood neighborhoods. Main effects showed that growing up Black predicted CRP and hypertension elevations, despite controlling for neglect and childhood family and neighborhood poverty and their interactions. Multivariate results showed that race and childhood adversities interacted to predict adult health outcomes. Childhood family poverty predicted increased risk for hypertension for Blacks, not Whites. In contrast, among Whites, childhood neglect predicted elevated CRP. Childhood neighborhood poverty interacted with childhood family poverty to predict pulmonary functioning in adulthood. Gender differences in health indicators were also observed. The effects of childhood neglect, childhood poverty, and growing up Black in the United States are manifest in physical health outcomes assessed 30 years later. Implications are discussed.

Introduction

In the United States, childhood neglect is the most common form of maltreatment and accounts for over 60% of cases reported to child protective services. In 2011, 541,000 children in the United States were estimated to be victims of neglect (U.S. Department of Health and Human Services, 2012). Studies have also reported associations between childhood neglect and childhood poverty (Berger, 2005; Drake & Pandey, 1996; Theodore, Runyan, & Chang, 2007) with estimated rates of neglect of 2.2 children per 1,000 in middle- and upper-socioeconomic status (SES) families compared to 16.1 per 1,000 children in low-SES families (Sedlak et al., 2010). Furthermore, both neglect and poverty in childhood are associated with a range of negative sequelae, including poor physical health in adulthood (Conroy, Sandel, & Zuckerman, 2010; Danese et al., 2009; Lanier, Jonson-Reid, Stahlschmidt, Drake, & Constantino, 2009). However, few studies have examined physical health consequences of neglect (Wegman & Stetler, 2009). In this study, we focus on cases of childhood neglect that represent

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judgments that caregivers failed to provide food, shelter, clothing, and/or attend to the medical needs of the child beyond acceptable community standards at the time.

When examining the link between childhood neglect and poverty and adult outcomes, we have based our work on an ecological model that stresses the importance of social context and the need to consider the individual in the framework of the broader environment in which he or she functions (Belsky, 1980; Garbarino, 1977; Widom, 2000). This work is based on the premise that children exist within the context of families and that families are embedded in neighborhoods or, in some cases, isolated from neighborhoods. Thus, in order to understand adult outcomes, we believe it is important to take into account characteristics of the individual (race, gender, childhood neglect), the family (family poverty), and the neighborhood (neighborhood poverty) and the ways in which these factors work together or interact.

Neglect, poverty and physical health outcomes

To date, much of the research on childhood neglect has focused on mental health, rather than physical health, outcomes. However, theoretical models of the impact of early stressful experiences (Repetti, Taylor, & Seeman, 2002) suggest that neglect may lead to poorer physical health by disrupting stress–response pathways and psychosocial functioning and contributing to risky behaviors. Several papers report a connection between physical and sexual abuse and adult physical health outcomes (Arnow et al., 1999; Drossman, Talley, Leserman, et al., 1995; Fuller-Thomson, Bottoms, Brennenstuhl, & Hurd, 2011; Newman et al., 2000; Rapkin, Kames, Darke, Stampler, & Naliboff, 1990; Sachs-Ericsson, Medley, Kendall-Tackett, & Taylor, 2011; Walker et al., 1988). Studies of the relation between neglect and health outcomes are rare (Goodwin & Stein, 2004; Widom, Czaja, Bentley, & Johnson, 2012).

At the same time, research has shown that impoverished environments in childhood have long-term physical health effects (Case, Lubotsky, & Paxson, 2002). Studies examining family poverty with cross-sectional and longitudinal designs consistently find that children growing up in poorer families are at increased risk for health problems that may persist into adulthood (Adler & Rehkopf, 2008; Case et al., 2002; Cohen, Janicki-Deverts, Chen, & Matthews, 2010; Conroy et al., 2010; Galobardes, Lynch, & Davey Smith, 2004). Neighborhood level studies also link poverty to poor physical health in adulthood (Franzini, Caughty, Spears, & Esquer, 2005; Moore et al., 2010; Wilkinson & Pickett, 2007). The few studies that have examined the role of individual level poverty within the context of the community have found that both family and neighborhood factors were important for physical health (Case, Fertig, & Paxson, 2005; Franzini et al., 2005; Moore et al., 2010).

Because childhood risk factors of neglect and poverty tend to co-occur, and many believe that poverty accounts for the negative consequences associated with neglect, it is important to understand if and how they each impact functioning and whether they interact. Lacking such knowledge, policy makers and interventionists may misappropriate efforts and miss important opportunities to create meaningful change.

To our knowledge, few studies have simultaneously examined the roles of neglect and poverty in relation to physical health. Goodwin and Stein (2004) found that when adult poverty and race were controlled, the association between childhood neglect and self-reported diseases in adulthood became stronger. However, independent effects of poverty and race were not reported and childhood poverty was not assessed. In another study using hospital record data and a longitudinal design, Lanier et al. (2009) found that neglect, welfare receipt, and average neighborhood income in childhood were all independently related to risk for hospital care and cardiovascular and respiratory disease in children and adolescents. Danese et al. (2009) found that maltreatment in childhood was related to C-Reactive Protein (CRP) levels after controlling for adult SES. Finally, one recent study (Widom, Czaja, Bentley, et al., 2012) followed a sample of court-substantiated cases of childhood maltreatment and matched controls into adulthood and found that neglect predicted several health outcomes, despite controlling for poverty. In that study the contributions of race, childhood family and neighborhood poverty, and their interactions were not addressed.

Race and physical health outcomes

The burden of poverty and poor health is not distributed equally in the United States, with approximately 35% of Black children living in poverty during 2009 compared to 17% of White children (Macartney, 2011). Blacks also tend to exhibit poorer physical health, relative to Whites (Adler & Rehkopf, 2008).

In cross-sectional studies examining poverty and race together, Black–White differences in health status (diabetes, blood pressure and obesity) were considerably minimized when poverty was taken into account (Bleich, Thorpe, Sharif-Harris, Fesahazion, & La Veist, 2010; LaVeist, Thorpe, Galarraga, Bower, & Gary-Webb, 2009; Thorpe, Brandon, & LaVeist, 2008), which suggests that poverty may account for the negative health outcomes associated with minority status. However, other research has reported that large race differences in physical health persist despite controlling for poverty (Adler & Rehkopf, 2008; Williams, Sternthal, & Wright, 2009). There is also evidence that the effects of poverty on health vary by race, which suggests that race may moderate the impact of poverty on health (Reagan, Salsberry, Fang, Gardner, & Pajer, 2012; Wickrama, Wickrama, & Bryant, 2006). In these studies, although Blacks were at risk for worse outcomes overall, Whites showed stronger associations between poverty and negative outcomes. Finally, recent research has shown that Black and White children manifest mental health consequences of childhood neglect differently (Widom, Czaja, Wilson, Allwood, &