



Research article

Childhood maltreatment predicts allostatic load in adulthood[☆]

Cathy Spatz Widom^{a,*}, Jacqueline Horan^a, Linda Brzustowicz^b^a Psychology Department, John Jay College, City University of New York, New York City, NY, USA^b Department of Genetics, Rutgers University, Piscataway, NJ, USA

ARTICLE INFO

Article history:

Received 19 September 2014

Received in revised form 23 January 2015

Accepted 26 January 2015

Available online 18 February 2015

Keywords:

Child maltreatment

Allostatic load

Physical health

Longitudinal

ABSTRACT

Childhood maltreatment has been linked to numerous negative health outcomes. However, few studies have examined mediating processes using longitudinal designs or objectively measured biological data. This study sought to determine whether child abuse and neglect predicts allostatic load (a composite indicator of accumulated stress-induced biological risk) and to examine potential mediators. Using a prospective cohort design, children (ages 0–11) with documented cases of abuse and neglect were matched with non-maltreated children and followed up into adulthood with in-person interviews and a medical status exam (mean age 41). Allostatic load was assessed with nine physical health indicators. Child abuse and neglect predicted allostatic load, controlling for age, sex, and race. The direct effect of child abuse and neglect persisted despite the introduction of potential mediators of internalizing and externalizing problems in adolescence and social support and risky lifestyle in middle adulthood. These findings reveal the long-term impact of childhood abuse and neglect on physical health over 30 years later.

© 2015 Elsevier Ltd. All rights reserved.

Introduction

Child maltreatment represents a serious public health concern in the United States and abroad (Gilbert et al., 2009; U.S. Department of Health and Human Services, 2013) and has been related to a number of physical health conditions, including hypertension, diabetes, asthma, heart disease, inflammation, obesity, and poor general health (Chartier, Walker, & Naimark, 2007; Danese, Pariante, Caspi, Taylor, & Poulton, 2007; Flaherty et al., 2006; Wegman & Stetler, 2009; Widom, Czaja, Bentley, & Johnson, 2012). With some exceptions, the existing literature relies heavily on cross-sectional designs that provide support for an association between childhood adversities and health outcomes. However, a review of studies relating childhood trauma and physical disorders among adults in the US (Goodwin & Stein, 2004) concluded that future research needs to include “objectively measured biological data using a longitudinal design”. This study is an attempt to understand how these childhood experiences “get under the skin”.

Prior research has documented the impact of early childhood adversities on health-related outcomes by focusing on disparities in morbidity (Batten et al., 2004; Dube et al., 2009) and mortality (Howard et al., 2000). However, there has been increased interest in allostatic load (McEwen, 1998), a construct that refers to the process whereby chronic or recurrent stress

[☆] This research was supported in part by grants from Eunice Kennedy Shriver NICHD (HD072581 and HD40774), NIMH (MH49467 and MH58386), NIIJ (86-IJ-CX-0033 and 89-IJ-CX-0007), NIDA (DA17842 and DA10060), NIAAA (AA09238 and AA11108) and the Doris Duke Charitable Foundation. Points of view are those of the authors and do not necessarily represent the position of the United States Department of Justice or National Institutes of Health.

* Corresponding author at: John Jay College, 524 West 59th Street, Suite 10.63.02, New York City, NY 10019, USA.

leads to cascading, potentially irreversible changes in biological stress-regulatory systems. Over time, the effects of earlier stressors are presumed to lead to individual differences in biological markers of the cumulative effects of stress and in stress-related physical and mental disorders. Exposure to childhood adversities, including childhood abuse and neglect, is thought to produce physical wear and tear on a person's body that, over the lifetime, is associated with less healthy stress-related biological profiles and trajectories. McEwen and his colleagues (McEwen, 1998; McEwen & Stellar, 1993; Seeman, Singer, Rowe, Horwitz, & McEwen, 1997) have argued that allostatic load can be quantified by cataloging specific biomarkers across the major biological regulatory systems, including cardiovascular, metabolic, endocrine, and immune systems. Research has utilized this concept of allostatic load to increase explanatory power in understanding the relationship between specific stressors and physical health (see Szanton et al., 2005 for a review).

Early abusive or neglectful family environments may affect the development of emotional, behavioral, social, and biological mechanisms that undermine a child's ability to regulate stress and, in turn, this dysregulation is thought to lead to long-term physical health outcomes. One model (Repetti, Taylor, & Seeman, 2002), proposes that poverty and low family socioeconomic status (SES) place social and financial stresses on the family, creating an adverse family environment for the child. In turn, children exposed to such an environment are believed to be at increased risk of developing deficits in emotion regulation and expression, social competence, and later, engaging in health-threatening behaviors (e.g., substance abuse and promiscuous sexual activity), and eventuating in mental and physical health problems across the lifespan. To the extent that socio-emotional functioning is altered by adverse experiences early in life, these socio-emotional dispositions then are likely to influence how children, adolescents, and adults cope with the ongoing stressful events that they encounter across the life course, ultimately, leading to a greater toll on allostatic load (Lupine, 2006).

This model has been supported by research with the Coronary Artery Risk Development in Young Adults Study. Lehman, Taylor, Kiefe, and Seeman (2009) found that harsh early family environments were related to chronic negative emotional states, including depression, anxiety, anger expression, and hostility, which in turn predicted baseline diastolic and systolic blood pressure as well as change in systolic blood pressure (components of allostatic load). These chronic negative emotional states have been associated with poor health behavior (Caspi et al., 1997), hypertension (Davidson et al., 2000; Yan et al., 2003), and later health risks, including mortality (Martin et al., 1995). Empirical evidence has also shown that growing up in an adverse family environment leads to reduced psychosocial resources, including social support, and increased health risks (House, Umberson, & Landis, 1988; Kertesz et al., 2007; Seeman, 1996; Taylor, 2010), including metabolic functioning (Lehman, Taylor, Kiefe, & Seeman, 2005). Some studies have examined the impact of childhood maltreatment on allostatic load (Katz, Sprang, & Cooke, 2011; Dackis et al., 2012), finding that exposure to child abuse and neglect is associated with higher levels of allostatic load, reflecting more physiological dysregulation and more risk for physical health problems. Although informative, these studies are predominantly cross-sectional or short-term longitudinal studies, extending only through adolescence. Lacking are studies that address the long-term impact of childhood maltreatment on allostatic load and related health problems in adulthood.

In addition, a separate stream of research has documented associations between childhood abuse and neglect and other outcomes, including increased risk for anxiety and depression (Cohen, Brown, & Smailes, 2001; Gibb, Chelminski, & Zimmerman, 2007; MacMillan et al., 2001), poorer social skills and deficient interactions with peers (Crockenberg & Lourie, 1996; Pettit, Dodge, & Brown, 1988), lower levels of social support (Pepin & Banyard, 2006; Schumm, Briggs-Phillips, & Hobfoll, 2006; Sperry & Widom, 2013), and increased likelihood of risky sex behaviors (Widom & Kuhns, 1996; Wilson & Widom, 2008, 2009). Given that these outcomes have also been identified as precursors to physical health problems in adulthood (Taylor, Way, & Seeman, 2011), researchers have begun to consider the potential mediating role of social, emotional, and behavioral factors that may explain the link between childhood adversities and poor physical health in adulthood. Although there is evidence that child abuse and neglect is related to individual outcomes, few theoretical models provide a set of hypothesized relationships and pathways that may explain the impact of child maltreatment on long-term outcomes, particularly physical health. The present study seeks to address this gap by examining the impact of abuse and neglect in childhood on allostatic load in middle adulthood, drawing on the work of McEwen, Repetti, Taylor, Seeman, and others. While other research suggests that physiological effects, particularly altered hypothalamic pituitary axis functioning, may impact internalizing and externalizing outcomes (DeBellis, 2006; Shenk et al., 2010), given the constraints of our study, we are not able to test such a hypothesis.

The Present Study

The present research draws on earlier work to speculate on possible mediating pathways from child maltreatment to allostatic load in middle adulthood through deficits in earlier socio-emotional functioning and, thus, represents an examination of the long-term impact of child abuse and neglect on development across the lifespan. Specifically, the present research sought to determine whether child abuse and neglect increases a person's risk for higher allostatic load in adulthood and to examine potential mechanisms through which child maltreatment (an adverse childhood environment) leads to poor physical health outcomes in adulthood.

First, we hypothesize that child abuse and neglect will predict higher levels of allostatic load in adulthood. Second, we hypothesize that the impact of childhood abuse and neglect will operate through mediating pathways of high levels of internalizing and externalizing symptoms in adolescence, leading to later risky health behaviors and lower social support in middle adulthood that in turn, lead to higher allostatic load in later adulthood, when controlling for key demographic

Download English Version:

<https://daneshyari.com/en/article/344600>

Download Persian Version:

<https://daneshyari.com/article/344600>

[Daneshyari.com](https://daneshyari.com)