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The role of socioeconomic factors in Black-White health inequities across the life course: Point-in-time measures, long-term exposures, and differential health returns

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ABSTRACT

Research links Black-White health disparities to racial differences in socioeconomic status (SES), but understanding of the role of SES in racial health gaps has been restricted by reliance on static measures of health and socioeconomic well-being that mask the dynamic quality of these processes and ignore the racialized nature of the SES-health connection. Utilizing twenty-three years of longitudinal data from the Panel Study of Income Dynamics (1984–2007), this study uses multilevel growth curve models to examine how multiple dimensions of socioeconomic well-being—including long-term economic history and differential returns to SES—contribute to the life course patterning of Black-White health disparities across two critical markers of well-being: body mass index (N = 9057) and self-rated health (N = 11,329). Findings indicate that long-term SES exerts a significant influence on both body mass index and self-rated health, net of point-in-time measures, and that Black-White health gaps are smallest in models that adjust for both long-term and current SES. I also find that Blacks and Whites receive differential health returns to increases in SES, which suggests that other factors—such as neighborhood segregation and exposure racial discrimination—may restrict Blacks from converting increases in SES into health improvements in the same way as Whites. Together, these processes contribute to the life course patterning of Black-White health gaps and raise concerns about previous misestimation of the role of SES in racial health disparities.

Despite overall reductions in morbidity and mortality over the past century, Blacks in the United States are still more likely than Whites to experience death and disability from a range of diseases, including diabetes, cardiovascular disease, and cancer (Farmer and Ferraro, 2005; Murphy et al., 2013; Williams et al., 2010). Scholars have characterized Blacks' high rates of morbidity as "first and worst," whereby Blacks experience earlier onset of illness, greater severity of disease, and poorer survival rates than Whites (Williams et al., 2010). In the late nineteenth century, DuBois (1899) claimed that the root causes of Black-White health disparities were social, due chiefly to the "vastly different conditions" in which Blacks and Whites lived and worked. Scholars today continue to recognize the social origins of racial health disparities. In particular, research identifies socioeconomic status (SES) as a fundamental determinant of health (Link and Phelan, 1995), and efforts to understand the causes of racial health disparities have found that some of the observed Black-White gap in health can be explained by racial differences in SES (Clarke et al., 2009; Franks et al., 2006; Geronimus et al., 2001; Hayward et al., 2000; Williams et al., 2010). In general, studies find that accounting for the racial patterning of SES using point-in-time indicators such as annual income attenuates Black-White health disparities, but disparities persist even after "controlling" for SES.

While a wide body of research examines the contribution of SES to racial health disparities, critical gaps in the literature remain. In particular, while studies link cross-sectional levels of education, income, and wealth to mean level Black-White health gaps, few studies consider the role of long-term exposure to socioeconomic conditions (Pollack et al., 2007; Willson et al., 2007), account for differential health returns to SES by race (Pearson, 2008; Shuey and Willson, 2008), or examine trajectories of health disparities across multiple outcomes using longitudinal data (Brown, O'Rand, and Adkins, 2012). Together, these conceptual and methodological limitations raise critical questions about previous misestimation of the role of SES in producing Black-White health disparities across

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the life course. On the one hand, by excluding long-term measures of SES from model estimates, previous studies risk underestimating the role of SES in Black-White health gaps (Do, 2009). On the other hand, by assuming that Blacks and Whites receive the same health benefits from increases in SES, previous estimates about the protective effects of SES may be overestimated (Pearson, 2008). Further, limiting examinations of Black-White health gaps to cross-sectional studies of single health outcomes masks substantial variation in the role of various dimensions of SES in producing trajectories of racial health inequities across multiple domains of health.

This study aims to fill these gaps in the literature by examining the roles of multiple facets of socioeconomic well-being over time in the age patterning of Black-White health disparities. Utilizing more than twenty years of longitudinal data from the Panel Study of Income Dynamics (PSID), I use multilevel growth curve models to examine whether and how the incorporation of dynamic and multifaceted indicators of socioeconomic well-being—including cumulative exposure to economic conditions and differential health returns to socioeconomic resources—improves understanding of the role of SES in the life course patterning of Black-White disparities in body mass index and self-rated health. By conceptualizing and operationalizing SES as a multidimensional, dynamic, and racialized construct that shapes trajectories of multiple health outcomes, this study provides new knowledge of the determinants of Black-White health disparities and sheds light on potential leverage points for ameliorating racial health inequities.

1. Background

1.1. SES as a fundamental determinant of health and racial health disparities

Across the life course, low socioeconomic status is associated with increased morbidity and mortality risk (Krieger et al., 1997; Willson et al., 2007). There is no single mechanism underlying the link between SES and health, but instead there are a number of pathways through which SES shapes exposure to risks and access to health promoting resources and opportunities to ultimately affect health and well-being (Krieger et al., 1997; Link and Phelan, 1995; Williams and Collins, 1995). Compared to individuals of higher SES, lower SES individuals have less access to affordable healthy food options, less leisure time for physical activity, reduced access to medical care, and higher exposure to environmental toxins, violence, and psychosocial stress (Link and Phelan, 1995; Williams and Collins, 1995; Williams et al., 2010). Because SES reflects access to health-promoting resources, affects multiple disease outcomes through multiple mechanisms, and consequently maintains an association with disease even when intervening mechanisms change, SES can be considered a "fundamental cause" of health and disease risk (Link and Phelan, 1995).

In addition to affecting health through multiple pathways, SES is also a multidimensional construct consisting of multiple components—such as education, income, and wealth—and research suggests that the individual components of SES may have unique associations with health. For example, while education may improve health by improving health efficacy and human capital, income can afford individuals access to the material resources needed to afford healthy lifestyles and proper preventive health care (Elo, 2009; Lynch, 2006). Further, studies document a strong association between wealth and health, net of other indicators of SES (Robert and House, 1996; Pollack et al., 2007), with scholars hypothesizing that wealth may provide households with economic stability in times of diminished wages or economic distress (Boen and Yang, 2016). For this reason, it is essential that studies of health include multiple measures of SES to fully capture the role of SES in affecting individual-level health and population-level health disparities (Braveman et al., 2005).

Given the racial stratification of socioeconomic resources in the U.S., a wide body of research links Black-White disparities in health to racial differences in SES. Though distinct, race and social class are interrelated dimensions of stratification that contribute to disparities in risk exposure, access to resources, and health (LaVeist, 2005; Brown, O'Rand, and Adkins, 2012). Phelan and Link (2015) argue that racism is a "fundamental cause" of disease, in large part due to its role in producing stark racial inequalities in SES. Compared to Whites, Blacks in the U.S. have lower levels of education (US Census, 2012a), higher rates of unemployment (Bureau of Labor Statistics, (2012)), and higher poverty rates (US Census, 2012b). Because SES is both a fundamental determinant of health (Link and Phelan, 1995) and strongly patterned by race (Phelan and Link, 2015), a number of studies find that racial health disparities are, at least partially, explained by racial differences in SES (Clarke et al., 2009; Do et al., 2012; Haas and Rohlfsen, 2010; Haas et al., 2012; Hayward et al., 2000; Williams and Collins, 1995; Williams et al., 2010).

1.2. Life course patterns of racial health disparities

While a number of studies document racial health disparities in cross-sectional levels of health, less is known about racial differences in trajectories of health across the life course (Brown, O'Rand, and Akins, 2012). A core principle of the life course perspective is an understanding that human development and aging are life-long processes (Pavalko and Willson, 2011), and research documents significant variation in individual health over the life span. Further, research also finds that the magnitude, direction, and determinants of health gaps can also vary by outcome and across the life course. Research posits three main hypotheses related to the age patterning of racial health disparities. First, most studies of the life course patterning of Black-White health gaps find that disparities grow over time and diverge with age (Dupre, 2007; Shuey and Willson, 2008; Willson et al., 2007), providing evidence of the "cumulative advantage hypothesis." In racial disparities research, cumulative advantage suggests that racial health gaps grow though middle and late age, as Whites accumulate greater health and economic capital over time relative to Blacks. In addition to racial differences in the accumulation of life course capital, the process of cumulative advantage can be further amplified by racial differences in returns to resources (DiPrete and Eirich, 2006; Shuey and Willson, 2008). Second, other studies find that the racial health gap converges later in the life course—supporting the "age-as-leveler hypothesis" (House et al., 1994; House et al., 2005; Kim and Miech, 2009). This hypothesis holds that aging has negative health consequences for both advantage and disadvantaged population groups, and that biological frailty and senescence affect both groups in late life. As such, racial health disparities converge, and may even cross-over, in late life. Third, the "persistent inequality hypothesis" suggests that the magnitude of the Black-White health gap remains stable with age, with socioeconomic, demographic, and human capital factors having persistent effects on health across the life course (Ferraro and Farmer, 1996; Haas and Rohlfsen, 2010). While racial health disparities emerge early in the life course, this hypothesis suggests that the disparities are persistent across the life span.

Studies document that socioeconomic factors play a critical role in shaping age patterns of Black-White health inequities across the life course (Brown, O'Rand, and Akins, 2012; Shuey and Willson, 2008). In addition to affecting mean levels of health, research finds that the associations between various components of SES and