Black-White Differences in the Relationship Between Childhood Socioeconomic Status and Adult Health[1]

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A large literature demonstrates that the likelihood of developing a chronic disease such as cardiovascular disease or cancer varies by a person's social characteristics, circumstances and contexts. Although these patterns are well established, much less is known about the social processes and pathways that produce them. Thus researchers have moved beyond identifying social risk factors towards considering why particular social experiences emerge as markers of health risk. A central focus of this new line of inquiry is whether and how the *lifetime* patterning of social experience affects health (Ben-Shlomo and Kuh 2002; Hughes and Waite 2005; Singer and Ryff 1999). Chronic diseases have long latent periods; although they are typically diagnosed relatively late in life, their clinical manifestation reflects long-term processes of physical degeneration and dysregulation (Lynch and Davey Smith 2005). Thus the presence of chronic disease is likely to reflect the early and/or accumulated effects of life experience on these biological systems (Hertzman 1999; McEwen and Stellar 1993; Singer and Ryff 1999).

A growing body of evidence supports the idea that early socioeconomic disadvantage has long term, and perhaps cumulative, effects on health. Lower socioeconomic status in childhood is associated with a higher likelihood of chronic disease and younger ages at death (Beebe-Dimmer et al. 2004; Hayward and Gorman 2004; Hemmingsson and Lundberg 2005; Metcalfe et al. 2005; O'Rand and Hamil-Luker 2005; Power, Hypponen and Smith 2005). This relationship is found for both retrospective reports of father's education and/or occupation (Hemmingsson and Lundberg 2005) and retrospective assessments of family's relative economic position or

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financial hardship (Luo and Waite 2005). The relationship between childhood socioeconomic status and adult health is found net of adult socioeconomic status, usually measured at one point (e.g. Metcalf et al. 2005) but sometimes at multiple points (Singh-Manoux et al. 2004). In many studies the effects of childhood socioeconomic indicators attenuate with the introduction of adult socioeconomic status suggesting that some of the effect of childhood socioeconomic status on health is through adult socioeconomic status (e.g. Hayward and Gorman 2004).

Despite this accumulation of evidence, little previous research has examined race/ethnic differences in the association between childhood socioeconomic status and health. This deficit reflects in part the large body of British research on this topic; issues of health and social class have thus far loomed much larger for British researchers than issues of health and race/ethnicity. However, even U.S. researchers have devoted little if any attention to this topic, even though the role of socioeconomic status in explaining race/ethnic health differences has otherwise received a great deal of attention e.g. (Menchik 1993; Rogers et al. 1996).

Racial minorities are more likely to experience socioeconomic adversity than whites at all ages. In addition, the health effects of childhood economic adversity may be dissimilar for racial minorities than for majority whites. Thus differences in both exposure to childhood economic adversity and in the effects of this adversity may be very important to understanding race/ethnic differences in adult health. In this paper, I address these issues using data from the nationally representative Panel Study of Income Dynamics, which has recently added a detailed series of questions on health status to its annual interview. I organize my analysis around two questions. First, to what extent does childhood socioeconomic status explain race/ethnic differences in adult health? Second, does the relationship between socioeconomic status and health differ between blacks and whites and does this difference help in explaining the black-white health gap?

DATA, MEASURES AND METHODS

The Panel Study of Income Dynamics (PSID) began in 1968 with a sample of 18,224 individuals living in 4,802 families, selected using a split sample methodology in which lower income families were over represented (Hill 1992). Sample families were reinterviewed yearly through 1997 and every two years thereafter. The initial response rate for the PSID was 76%; after 11% attrition between the first and second years of the study, yearly reinterview rates for the core sample have exceeded 95% (Panel Study of Income Dynamics 1998, 2005). In addition to high year-to-year response rates, the PSID has been successful in re-contacting and interviewing families who had previously dropped out of the sample. Studies evaluating the national representativeness of the remaining PSID sample have found no significant distortions (Fitzgerald, Gottschalk and Moffitt 1998)

One of the unique features of the PSID design is that a child born to a sample member becomes a sample member. In addition, sample members are interviewed even when they leave sample families. For example, a child born to a sample family in 1969 who then moved out of her parents' household in 1989 is a sample member, interviewed first as a part of her parents' family and then in her own independent family. These rules were designed to mimic the population's family building and produce a representative sample of families across time and at a point in time. For the purposes of this paper, this means that I am able to examine health among a representative sample of people in mid to late life for whom substantial life history information is available.

My analytic sample consists of Black and White PSID sample members ages 30 to 70 and interviewed as “head” or “wife” between 1999 and 2003, 4,669 persons. Approximately 37% pf these respondents are Black and approximately 54% are women. Although the PSID collects

information about everyone living with sample members, I restrict my analysis to sample members.[2] I include only black and white persons in my analysis because the PSID sample contains small numbers of persons of other race/ethnicities. Moreover, since the sample was drawn in 1968, persons who entered the United States in the large waves of immigration since then are not represented. Since recent immigrants are disproportionately Latino and Asian, any analyses of these groups based on the PSID would be distorted.[3]

PSID respondents were asked if a doctor had ever told them if they had any of a series of chronic conditions. In this paper, I focus on six of these: heart disease/heart attack, diabetes, cancer, lung disease, stroke and hypertension. I will estimate one series of models with the number of chronic conditions (of these six) as the outcome; a second series will examine the prevalence of cardiovascular disease (heart disease/heart attack, hypertension and stroke) only. In addition, if a respondent reported having a condition they were asked how long they had it. These responses were recorded in the time unit the respondent gave (e.g. weeks or years); I have recoded all responses into years to create variables indicating age at incidence for each condition. I will estimate parallel sets of models for the age of onset of the first chronic condition and of cardiovascular disease.

Measures of childhood socioeconomic status are based on respondents' retrospective reports of their parents' educations and fathers' occupations. I used the highest education level attained by the respondents' parents (i.e. mother's education if hers was higher than the father's or vice versa) to create a series of dummy variables indicating parents' education of below high school

[2] In families where both the head of the family and his or her partner were sample members, I selected one at random to be in the analytic sample. Although I do not include non-sample members in my analysis, I do include them in household structure measures for sample members.

[3] The PSID interviewed an additional Latino sample from 1990 to 1995 and added a recent immigrant sample in 1997; however I do not use them.

(reference), high school, some college or college graduate. Similarly, I created a set of dummy variables indicating father's occupation in broad categories, with as the reference category.

Measures of adult socioeconomic status include respondent's education (in the same set of categories) and current household income. Models include controls for age in years and gender; some models also control for current marital status.

I will use these data to estimate a series of models addressing the two questions identified above: does childhood socioeconomic status explain race/ethnic differences in adult health and does the relationship between socioeconomic status and health differ between blacks and whites and does this difference help in explaining the black-white health gap? As noted, I will examine both the prevalence and age of onset of a set of six important chronic diseases and cardiovascular disease. For the prevalence models, I will use Poisson regression and logistic regression; for the age of onset models I will use Accelerated Failure Time models, which explicitly model the time until an event, in this case disease onset, is experienced.

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