A Changing Landscape of Health Opportunity in the United States:

Increases in the Strength of Association Between Childhood Socioeconomic Disadvantage and Adult Health Between the 1990s and the 2010s

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Data for both MIDUS samples used in this study are publicly available (Core: https://doi.org/10.3886/ICPSR02760.v18; Refresher: https://doi.org/10.3886/ICPSR36532.v3).

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Abstract

Understanding the changing health consequences of childhood socioeconomic disadvantage (SED) is highly relevant to policy debates on inequality and national and state goals to improve population health. However, changes in the strength of association between childhood SED and adult health over historic time are largely unexamined in the United States. The current study begins to address this knowledge gap. Data were from two national samples of adults collected in 1995 (n = 7,108) and 2012 (n = 3,577) as part of the Midlife in the United States study. Three measures of childhood SED (parent occupational prestige, childhood poverty exposure, and parent education) were combined into an aggregate index and examined separately. The association between childhood SED (aggregate index) and five health outcomes (BMI, waist circumference, chronic conditions, functional limitations, and self-rated health) was stronger in the 2012 sample than the 1995 sample, with the magnitude of associations being approximately twice as large in the more recent sample. Results persisted after adjusting for age, sex, race, marital status, and number of children, and were similar across all three measures of childhood SED. The findings suggest that the socioeconomic circumstances of childhood may have become a stronger predictor of adult health in recent decades.

Keywords: childhood socioeconomic status, social epidemiology, secular trends, social stratification, health disparities
Introduction

Understanding the changing health consequences of childhood socioeconomic disadvantage (SED) is highly relevant to policy debates on inequality in countries around the world, as well as to national and state goals to improve population health and optimize economic functioning. Despite the social and scientific significance of health stratification processes, changes in the strength of the associations between childhood SED and adult health over historic time are largely unexamined. Research has instead focused on secular trends in health outcomes (1,2), or on the association between adult socioeconomic indicators on adult health (3–10). However, several macro-level societal changes in the United States—three discussed below—suggest that social inequality has increased in ways that likely influence life-course health stratification processes. Although our focus is on the United States, similar trends are evident to varying degrees across the developed world (11).

Income Inequality Trends. Income inequality has increased substantially over the past several decades. While incomes of the bottom 60% of the population have remained relatively stagnant, incomes of the top 20% have increased, with the top 1% showing the largest gains (12). Four decades ago, the poor and middle class enjoyed substantially more income growth than the rich (13). But by 2014, this trend had reversed with annual income growth as high as 6% for the richest Americans, 1% for the middle class, and close to zero for those at the bottom of the income distribution (13,14). Such growth in income and wealth for more affluent segments of the population has led to ongoing increases in economic inequality (11).
**Income Segregation Trends.** Accumulating evidence suggests that alongside rising economic inequality, income segregation has also increased. One study showed that in 1970, 65% of families in large metropolitan areas lived in middle-class, mixed income neighborhoods, where the median income was close to that of the metro area as a whole (15). However, by 2009, only 42% of families lived in such neighborhoods. Mixed-income neighborhoods—and accompanying mixed income schools, playgrounds, recreation centers, shopping malls, and the like—have been replaced by neighborhoods that were very poor or very affluent (16). This converges with growing research on income segregation (17–19), and this finding has withstood various methodological challenges (20). The evidence thus shows that in the last several decades the United States has become more geographically divided by socioeconomic factors in ways that limit opportunities of those in disadvantaged contexts (21,22).

**Occupation and Work Environment Trends.** The labor market in the United States has changed substantially since the mid 1900’s (23). Between 1960 and 2016, the proportion of manufacturing industry jobs decreased from 30% to 8%, while service industry jobs increasing from 55% to 80% (24,25). Some new jobs in the service sector (e.g., medical professionals) pay a living wage and come with adequate benefits. However, many new service sector jobs (e.g., fast food worker) offer few benefits, and come with little autonomy and control (23,26). Wages and benefits have increased for the most advantaged segments of the labor market (27), while in less advantaged segments of the labor market wages have been relatively stagnant and benefits have declined (26,28). In short, there is growing evidence that for adults with low to moderate levels of education or technical training, the labor market has become less favorable (29), and the relative disadvantage between high and low skilled jobs has grown (30).
Implications for Life Span Health Stratification Processes. The above three trends have important implications for life span experiences as a function of socioeconomic background. Due to increased stratification of labor markets and living communities, disparities in exposure to adversity across the socioeconomic hierarchy may have widened, with long-term implications for health disparities across the life span. Importantly, research has shown substantial variability in the magnitude of the association between childhood SED and adult health across nations or states and with changes in social policy (31–36). These findings converge with the idea that the broader social context is largely responsible for shaping how socioeconomic background influences adult health (37), and that changes in these contexts over time may lead to changes in the strength of the childhood SED—adult health association. We therefore hypothesize that childhood circumstances, specifically family SED, has become a stronger predictor of adult health in more recent samples of adults compared with equivalent samples from prior decades.

Such thinking extends prior research focused on secular trends in associations between adult socioeconomic indicators and adult health, showing that linkages have heightened over time (6–8). However, the question of whether adult health outcomes have become more stratified by childhood circumstances remains largely unexplored. The current study addresses this gap, thereby bringing into high relief issues of when in the life course policy-related changes are critically needed to offset the adverse life course health consequents of growing inequality. We focus on physical health outcomes known to have a socioeconomic gradient: body mass index, functional limitations, chronic conditions, self-rated health, and waist circumference (38,39).

Methods
Design and Participants

Data are from two nationally representative samples of adults collected 17 years apart as part of the MIDUS (Midlife in the United States) Study (http://midus.wisc.edu). The MIDUS Core sample was recruited in 1995-1996 as a national study of 7,108 non-institutionalized adults from the 48 contiguous states (40). The total Core sample included main random digit dialed (RDD) respondents ($n = 3,487$), their siblings ($n = 950$), a city oversample ($n = 757$), and a twin subsample ($n = 1,914$). The MIDUS Refresher sample, a second independent national probability sample, recruited 3,577 adults in 2011-2014, with the majority of data collection in 2012 (41). All participants in the Refresher sample were part of a main probability sample. Additional information on sampling procedures, response rates, and other relevant features of the study design are provided in the Web Appendix.

Means and standard deviations for each sample, shown in Table 1, were calculated in both probability samples using sample weights so that values can be interpreted as population estimates. Raw descriptive statistics for the full samples are shown in Web Table 1. To maximize statistical power, our final analytic models compare the complete MIDUS Core sample ($n = 7,108$) to the MIDUS Refresher sample ($n = 3,577$). The magnitude of reported results were equivalent when excluding MIDUS Core over-samples (i.e., restricting to only the main RDD sample). These sensitivity analyses are described in the Web Appendix and shown in Web Figure 1.

Measures

**Childhood Socioeconomic Disadvantage (SED).** An aggregate index of childhood SED included the sum of three socioeconomic indicators: parent occupational prestige, childhood poverty exposure, and parent education (42). Combined indexes of socioeconomic status or
disadvantage are frequently used and are optimal when attempting to capture overall disadvantage with a single variable (43). The indicators were also analyzed separately, and the same pattern of findings was present for each (see Web Appendix for a detailed description of each measure, and Web Figure 2 for results). Parent occupation was determined from occupation prestige scores derived from participant reports of each parent’s occupation coded into census categories (44). Childhood poverty was assessed from reports of family welfare receipt in childhood (43). Parent education was coded from participant reports of each parent’s level of formal education. All indicators were scored so that higher scores indicate higher levels of disadvantage.

**Adult Health Measures.** Five well-validated and frequently used measures of adult physical health were examined (see Web Appendix for a detailed description of each measure). *Functional limitations* was assessed using an established 7-item measure of difficulties in carrying out instrumental activities of daily living (45). *Number of chronic conditions* was assessed as the total number of conditions reported by the participant, out of a list of 26 (e.g. diabetes, high blood pressure, cancer) (46). *Self-rated health* was measured using two items: one item from the telephone interview and one item in the self-administered questionnaire (44). *Body mass index* was scored from self-reports of height and weight in both sample (47). *Waist circumference* was assessed in centimeters using established methods (48). To facilitate clear interpretation of sample differences, all measures were z-scored to have a mean of zero and a standard deviation of 1 in the pooled sample. A composite adult health index was created by averaging the five z-scored measures ($\alpha = .76$).

**Covariates/Control Measures.** To account for demographic changes that could influence secular trends (49), all analyses adjusted for age (continuous), sex (0 = female, 1 = male), race
(Black, Hispanic, Native American and Other), marital status (0 = single/divorced/separated/widowed, 1 = married), and number of children (0 to ≥5).

**Data Analysis**

Separate regression models were estimated for the 1995 and 2012 samples using the grouping function in Mplus 8.3 (Muthén & Muthén, Los Angeles, California). All parameters were freely estimated within each sample (i.e., fully stratified), and the likelihood ratio chi-square test was used to test the statistical significance of differences in associations across samples. The standard error of beta differences ($B_{\text{diff}} = B_{2012} - B_{1995}$) were also calculated using established methods (50). Unstandardized results are reported in the figures and tables. Missing data on individual covariates was handled using Full Information Maximum Likelihood estimation (51). Levels of missing data are provided in the Web Appendix. Differences in means and variances across the two samples were considered using Student t-tests and variance ratio tests, adjusted by sample weights using the survey package in R (R Foundation for Statistical Computing, Vienna, Austria; 52).

**Results**

Differences in means and standard deviations across the two samples are shown in Table 1. For four out of five health measures, health was poorer and had more variability in 2012 than in 1995. The exception was self-rated health, which had more variability in the later sample but showed no mean differences between the 2012 and 1995 samples. Levels of childhood SED (aggregate index) were also lower in 2012 than 1995.

Results of stratified regression models are shown in Table 2. In both 1995 and 2012, the childhood SED index was a significant predictor of all five adult health outcomes. In the 1995 MIDUS Core sample, each SD unit increase in childhood SED was associated with a .07 SD
increase in BMI, a .06 SD increase in waist circumference, a .07 SD increase in chronic conditions, a .09 SD increase in functional limitations, and a .12 SD increase in reversed coded self-rated health. In the 2012 Refresher sample, each SD unit increase in childhood SED was associated with a .20 SD increase in BMI, a .15 SD increase in waist circumference, a .15 SD increase in chronic conditions, a .16 SD increase in functional limitations, and a .16 SD unit increase in self-rated health (reverse scored). The results for the composite adult health index were similar to those of the specific health measures. In the 1995 MIDUS Core sample, each SD unit increase in childhood SED was associated with a .09 SD increase in adult health, and in the 2012 MIDUS Refresher sample, with a .17 SD increase.

Figure 1 shows the strength of the association between childhood SED and each adult health outcome for the 1995 and 2012 MIDUS samples. Likelihood ratio chi-square statistics indicated the strength of the association between childhood SED and BMI, waist circumference, chronic conditions, functional limitations, and the composite index of adult health were stronger in the 2012 MIDUS sample than the 1995 MIDUS sample (Table 2). The association between childhood SED and self-reported health was marginally stronger ($P = .061$) in the 2012 sample than the 1995 sample. An overall test indicated that an unconstrained model, which allowed the association to be different across the two samples for all five health outcomes, explained the data significantly better than a model that constrained all five associations to be equal across samples ($\Delta \chi^2 = 29.42$, df = 5, $P < .001$). Individual childhood SED predictors showed similar pattern of findings when analyzed separately (Table 2).

Differences in the strength of association between childhood SED and adult health between the 1995 and 2012 samples were larger for females than for males. For females, the strength of the association was stronger in the 2012 sample than the 1995 for all five health
outcomes (Figure 2). For males, the pattern of findings was similar but less pronounced (Figure 3). A detailed description of results for males and females is provided in the Web Appendix.

With respect to race differences, although the pattern of associations were in the same direction for Black and White adults, differences in effect sizes between 1995 and 2012 were generally smaller and did not reach statistical significance for Black adults. Also noteworthy was that, in both samples, Black Americans experienced higher levels of childhood SED than Whites. A detailed description of results for Black and White adults is also described in the Web Appendix and shown in Web Figure 3.

Discussion

In recent decades, economic inequality has risen substantially in most countries around the world, with particularly large increases in the United States (11,13). Labor markets have become less favorable for the lower middle class, communities have become more socioeconomically divided, and related disparities in adult health have increased (6,20,23,53). Prior research on historical time trends in the patterning of health outcomes has focused on adult socioeconomic status and its relevance for adult health (primarily life expectancy and disease morbidity) (3–5). The childhood underpinnings of secular changes in health stratification processes, however, remain largely unexamined.

As a first step toward addressing this knowledge gap, the current study utilized data from two independent national samples of adults collected in the 1990’s and 2010’s to examine whether childhood SED has become a more consequential determinant of adult health in recent decades. Results indicated that, for four out five health outcomes (BMI, chronic conditions, functional limitation, waist circumference), the strength of the association between childhood socioeconomic disadvantage and adult health was approximately twice as large in the 2012
national sample than the 1995 national sample. For self-rated health, the association trended towards statistical significance and was 1.35 times larger in the 2012 sample than the 1995 sample. All results adjusted for sample differences in marital status, number of children, age, sex, and racial composition.

Prior research on trends in population health in the United States have documented stagnation and even declines in life expectancy in recent decades, particularly among middle aged Whites and those less advantaged socioeconomically (6,54,55). Interpretations of these findings have suggested that less educated Whites in particular have experienced cumulative disadvantage due to polarization of labor market opportunities and subsequent erosion of the blue collar, middle-class lifestyle (56). Others have emphasized a longer-term decline in trust and well-being within the broader population, suggesting the need to shift narrative away from a specific focus on Whites, and toward all individuals at the lower end of the socioeconomic distribution, irrespective of race/ethnicity (57,58). Recent findings consistent with these perspectives have shown that physical and mental health has declined in recent decades for the population as a whole, and that these declines have been most pronounced among less advantaged socioeconomic groups (59,60).

The current results add to this evolving literature by suggesting that changing experiences and opportunities across the life span patterned by background socioeconomic status play an important role in shaping the changing distribution of adult health outcomes. Specifically, our results suggest that socioeconomic circumstances in childhood have become more strongly associated with multiple aspects of adult health in more recent compared to earlier national samples. Additional research is needed to link these findings—which focus on the increasing salience of childhood circumstances—to prior work on the changing nature of adult exposures.
and outcomes across the socioeconomic hierarchy (6,59,60). Large and well documented changes in economic inequality, including increases in income stratification within the K-12 education system, and its various consequences for individuals and communities are important factors to consider alongside labor market trends (19–21).

Another salient future direction is examination of mechanisms that help explain changes in the childhood SED-adult health association over time. The consequences of rising economic inequality are likely to be numerous, and may include more economically separated communities, lower levels of trust, and more unfair treatment (61,62). Shifting job opportunities and work environments stemming from labor market changes for the lower end of the socioeconomic distribution are also macro-level candidate mechanisms (23). Elucidating which of these factors is most responsible for the increases in health stratification by childhood socioeconomic position are important next steps. Various areas of research—including studies examining economic downturns such as the Great Recession (63–65), or socioeconomic inequalities in cardiovascular disease risk (66,67)—may provide insight into mechanisms driving changes in the association between childhood circumstances and adult health. Studies examining the impact of specific policy changes are also sorely needed to illuminate potential solutions.

The pattern of associations across the two samples was similar by sex and race. However, the associations tended to be stronger among females than males in the 2012 sample, a difference especially apparent for BMI, waist circumference, functional limitations and self-rated health. These results parallel prior research showing that gradients in life expectancy and adult health outcomes by adult SED have increased more among females than males (6,68–70). Our results suggest the same may be true for childhood SED; specifically, that between the 1990’s
and the 2010’s the strength of the association between childhood disadvantage and adult health may have grown more quickly among females than males.

Race-related findings are preliminary due to a relatively small Black sample. However, smaller effect sizes among Black Americans underscore the importance of examining SED gradients separately across racial/ethnic groups, and are largely consistent with prior work showing a flatter SED gradient among Black Americans (71). Unfortunately this seems to stem from poorer health among more advantaged segments of the population rather than better health among the less advantaged (72). The reasons for this are not well understood but are likely due to stressors disproportionately experienced by Black Americans across the socioeconomic hierarchy (73,74). It should also be noted that childhood SED was disproportionately experienced by Black Americans in both samples. This is particularly troubling given ongoing racial tensions in the United States and the urgent need to mitigate enduring racial disparities in health.

Several limitations should be considered. First, because our study focused on differences across two samples, the detailed historical timing of secular trends could not be elucidated. Such questions will be important for future research to provide insight into possible mechanisms and potential policy fixes for troubling secular changes. Furthermore, because our analyses are cross-sectional, we were not able to fully rule out confounding factors such as those relating to sample composition or measurement invariance. However, our analyses showed that the findings were robust to inclusion of demographic covariates at each time point (i.e., to adjustment for demographic differences in sample composition). Furthermore, the pattern of associations over time was similar across the exposure and outcome variables considered, making it unlikely that idiosyncrasies in measurement over time were a major factor in the
overarching results. Nonetheless, future analyses to confirm the findings using additional data and alternative study designs will be important.

A second limitation was that childhood SED measures were based on retrospective self-report measures. Retrospective measures of childhood SED are widely used in population studies and have been well validated (75,76). Furthermore, consistent findings across the three measures considered bolster confidence in the reported findings. Nonetheless, examination of objective or parent report measures of childhood SED, and measures that capture the specific age of exposure, are important considerations to help confirm and build on the reported results (77).

A final caveat relates to the fact that, aside from BMI and waist circumference, health measures did not include objective health assessments, such as biomarkers. Although all of the self-reported health measures have been well validated and are robustly linked to objective health outcomes, they do not illuminate biological pathways that may be salient in the secular trends. Elucidation of such pathways will help to bring into focus mechanisms of physiologic dysregulation that link childhood SED to morbidity and mortality. Given increases in substance abuse and mental health problems in recent decades (78,79), the role of these variables in the reported trends will also be an important topic of research.

Within the limitations noted, our findings suggest that the circumstances of a child’s birth are emerging as a stronger predictor of adult health in recent decades. Possible policy solutions span domains from economic and tax matters to communities and schools, but empirical studies are essential for bringing such policy solutions into focus in hopes of alleviating declining long-term health prospects of children born into socioeconomically disadvantaged families. Within- and between-country analyses will be important in optimizing useful insights for potential policy solutions.
Finally, times of upheaval and change tied to the current pandemic and accompanying economic downturn are disproportionately impacting disadvantage groups, and thus likely exacerbating inequities across the lifespan (80). These changes, although deeply concerning and challenging, nonetheless provide new opportunities for policy changes that contribute to more widely shared economic recovery. Offering optimism, a growing number of studies suggest that specific policy changes can improve population health and reduce health disparities (81,82). In a society that embraces the idea of opportunity for all, generating and using scientific evidence to advance solutions to problems of inequity is a major priority.
References


Table 1. Mean and variance differences between the 1995 and 2012 samples of the Midlife in the United States study

<table>
<thead>
<tr>
<th>Measures</th>
<th>Core Sample&lt;sup&gt;a&lt;/sup&gt; (1995)</th>
<th>Refresher Sample&lt;sup&gt;a&lt;/sup&gt; (2012)</th>
<th>Mean Difference&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Variance Ratio&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex (female)</td>
<td>51.6 (SD)</td>
<td>52.1 (SD)</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>Age (years)</td>
<td>45.16 (13.53)</td>
<td>48.82 (13.57)</td>
<td>3.7&lt;sup&gt;c&lt;/sup&gt;</td>
<td>1.01</td>
</tr>
<tr>
<td>Race/ethnicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black, non-Hispanic</td>
<td>8.7 (SD)</td>
<td>7.4 (SD)</td>
<td>−1.3</td>
<td></td>
</tr>
<tr>
<td>White, non-Hispanic</td>
<td>83.6 (SD)</td>
<td>80.3 (SD)</td>
<td>−3.3&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Native American</td>
<td>0.9 (SD)</td>
<td>1.1 (SD)</td>
<td>−0.2</td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>3.2 (SD)</td>
<td>5.4 (SD)</td>
<td>2.2&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>3.5 (SD)</td>
<td>5.8 (SD)</td>
<td>2.3&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>65.6 (SD)</td>
<td>62.5 (SD)</td>
<td>−3.1</td>
<td></td>
</tr>
<tr>
<td>Number of Children</td>
<td>1.92 (1.44)</td>
<td>0.88 (1.16)</td>
<td>1.0&lt;sup&gt;c&lt;/sup&gt;</td>
<td>1.54&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Childhood SED Index&lt;sup&gt;d&lt;/sup&gt;</td>
<td>2.17 (1.55)</td>
<td>1.87 (1.55)</td>
<td>−0.3&lt;sup&gt;c&lt;/sup&gt;</td>
<td>1.00</td>
</tr>
<tr>
<td>Parent Education</td>
<td>5.27 (2.82)</td>
<td>6.34 (2.80)</td>
<td>1.0&lt;sup&gt;c&lt;/sup&gt;</td>
<td>1.01</td>
</tr>
<tr>
<td>Childhood Poverty</td>
<td>8.0 (SD)</td>
<td>9.6 (SD)</td>
<td>1.6</td>
<td></td>
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<tr>
<td>Parent Occupation Prestige</td>
<td>47.12 (20.44)</td>
<td>51.24 (20.85)</td>
<td>4.1&lt;sup&gt;c&lt;/sup&gt;</td>
<td>1.05</td>
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<tr>
<td>Body Mass Index</td>
<td>26.74 (5.40)</td>
<td>29.33 (7.20)</td>
<td>2.6&lt;sup&gt;c&lt;/sup&gt;</td>
<td>1.78&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Waist Circumference</td>
<td>35.28 (5.90)</td>
<td>38.53 (7.19)</td>
<td>2.7&lt;sup&gt;c&lt;/sup&gt;</td>
<td>1.48&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Chronic Conditions</td>
<td>2.49 (2.62)</td>
<td>3.00 (3.20)</td>
<td>0.5&lt;sup&gt;c&lt;/sup&gt;</td>
<td>1.50&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Functional Limitations</td>
<td>1.62 (0.82)</td>
<td>1.80 (0.93)</td>
<td>0.2&lt;sup&gt;c&lt;/sup&gt;</td>
<td>1.29&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Self-Rated Health</td>
<td>2.33 (0.81)</td>
<td>2.36 (0.91)</td>
<td>0.0</td>
<td>1.27&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

Abbreviations: SED = Socioeconomic Disadvantage

<sup>a</sup>Values were calculated for the probability samples using sample weights and can be interpreted as population estimates.

<sup>b</sup>Student’s t-tests and variance ratio tests (for continuous variables) were used to determine significance levels of mean and variance differences between samples.

<sup>c</sup>P < .01.

<sup>d</sup>Statistics for individual indicators of childhood disadvantage are based on versions prior to recoding and reverse scoring for inclusion in the aggregate childhood disadvantage index: parent education was coded on a 12 point scale from no school/some grade school (1) to professional degree (12); childhood poverty is dichotomously coded; and parent occupational prestige is based on established prestige scores for each occupation category.
Table 2. Model results showing differences in the strength of the association between childhood socioeconomic disadvantage (SED) and each adult health measure in the 1995 and 2012 samples of the Midlife in the United States study.

<table>
<thead>
<tr>
<th>Variables</th>
<th>1995a</th>
<th>2012a</th>
<th>B_{diff}</th>
<th>SE_{diff}</th>
<th>\Delta \chi^2 (1)</th>
<th>P</th>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Childhood SED Index</td>
<td>0.069</td>
<td>0.012</td>
<td>0.196</td>
<td>0.024</td>
<td>0.127</td>
<td>0.072</td>
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<td>Parent Educationc</td>
<td>0.080</td>
<td>0.012</td>
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<td>0.024</td>
<td>0.097</td>
<td>0.027</td>
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<td>0.005</td>
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<td>0.024</td>
<td>0.108</td>
<td>0.026</td>
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<tr>
<td>Parent Occupationc</td>
<td>0.065</td>
<td>0.013</td>
<td>0.143</td>
<td>0.024</td>
<td>0.078</td>
<td>0.027</td>
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<tr>
<td>Waist Circumference</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Childhood SED Index</td>
<td>0.061</td>
<td>0.011</td>
<td>0.154</td>
<td>0.022</td>
<td>0.093</td>
<td>0.025</td>
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<tr>
<td>Parent Educationc</td>
<td>0.067</td>
<td>0.012</td>
<td>0.135</td>
<td>0.023</td>
<td>0.068</td>
<td>0.026</td>
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<td>0.006</td>
<td>0.011</td>
<td>0.091</td>
<td>0.022</td>
<td>0.085</td>
<td>0.025</td>
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<tr>
<td>Parent Occupationc</td>
<td>0.059</td>
<td>0.012</td>
<td>0.115</td>
<td>0.022</td>
<td>0.056</td>
<td>0.025</td>
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<td>Chronic Conditions</td>
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Abbreviations: SED = Socioeconomic Disadvantage.

aEstimates are unstandardized and from stratified regression models that adjust for sex, age, racial composition, marital status, and number of childhood. The predictor and outcome variables shown were z-scored to have a mean of zero and a standard deviation of 1 in the pooled sample.

bP < .01.

cParent education and parent occupational prestige are reverse scored so that higher scores indicate higher levels of childhood socioeconomic disadvantage.
Figure Captions

Figure 1. Differences in the strength of association between childhood socioeconomic disadvantage and (A) body mass index, (B) chronic conditions, (C) functional limitations, (D) reverse-scored self-rated health, and (E) waist circumference in the 1995 and 2012 samples of the Midlife in the United States study. Results are from stratified regression models that adjust for age, sex, race, marital status, and number of children. Shaded regions indicate 95% confidence intervals. Self-rated health is reverse coded so that higher scores are indicative of poorer health.
Figure 2. Differences in the strength of association between childhood disadvantage and (A) body mass index, (B) chronic conditions, (C) functional limitations, (D) reverse-scored self-rated health, and (E) waist circumference in the 1995 and 2012 samples of the Midlife in the United States study for females. Results are from stratified regression models that adjust for age, sex, race, marital status, and number of children. Shaded regions indicate 95% confidence intervals.
Figure 3. Differences in the strength of association between childhood disadvantage and (A) body mass index, (B) chronic conditions, (C) functional limitations, (D) reverse-scored self-rated health, and (E) waist circumference in the 1995 and 2012 samples of the Midlife in the United States study for males. Results are from stratified regression models that adjust for age, sex, race, marital status, and number of children. Shaded regions indicate 95% confidence intervals.