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Compounded Deprivation in the Transition to Adulthood: The Intersection of Racial and Economic Inequality Among Chicagoans, 1995–2013

KRISTIN L. PERKINS AND ROBERT J. SAMPSON

This paper investigates acute, compounded, and persistent deprivation in a representative sample of Chicago adolescents transitioning to young adulthood. Our investigation, based on four waves of longitudinal data from 1995 to 2013, is motivated by three goals. First, we document the prevalence of individual and neighborhood poverty over time, especially among whites, blacks, and Latinos. Second, we explore compounded deprivation, describing the extent to which study participants are simultaneously exposed to individual and contextual forms of deprivation—including material deprivation (such as poverty) and social-organizational deprivation (for example, low collective efficacy)—for multiple phases of the life course from adolescence up to age thirty-two. Third, we isolate the characteristics that predict transitions out of compounded and persistent poverty. The results provide new evidence on the crosscutting adversities that were exacerbated by the Great Recession and on the deep connection of race to persistent and compounded deprivation in the transition to adulthood.

Key words: compounded deprivation, persistent poverty, young adulthood, Chicago

Poverty in the United States is experienced in multidimensional and intersecting forms. Problems like severe income poverty, for example, often coincide with joblessness, housing insecurity, and family instability, all of which can be mutually reinforcing. In one of the most influential accounts of such hardship, *The Truly Disadvantaged*, William Julius Wilson (2012 [1987], 3) focuses on the social transformation of the inner city in the 1970s and 1980s—especially the decline of manufacturing jobs and the outmigration of the black middle class—that disproportionately exposed poor Af-

rican Americans to concentrated neighborhood disadvantage. He begins this account, however, by highlighting the “cycle of deprivation” that is generated by the concentration of poverty, female-headed families, joblessness, teenage pregnancy, and violence.

The ensuing decades have witnessed considerable research on concentrated poverty, but the nature of “compounded deprivation” has been surprisingly understudied, in three major ways. First, much research in the tradition of *The Truly Disadvantaged* has focused on trying to separate the effects of poverty from its cor-

Kristin L. Perkins is a doctoral student in sociology and social policy at Harvard University. **Robert J. Sampson** is Henry Ford II Professor of the Social Sciences and director of the Boston Area Research Initiative at the Radcliffe Institute for Advanced Study at Harvard University.

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related adversities. As our review will show, the separation of individual from neighborhood poverty has animated an entire field of study. By contrast, systematic study of the intersection of individual with contextual forms of poverty—including but extending beyond material conditions like income to social forms of deprivation, such as weak social support networks or low collective efficacy—is comparatively rare.

Second, there has been a relative paucity of longitudinal studies that follow the same individuals over time so that entry into and exits from family poverty can be explicitly examined at the same time as transitions into and out of neighborhood poverty. To be sure, a burgeoning literature attempting to isolate the effect of neighborhood poverty on various outcomes does advance a temporal perspective, which we build upon. But a focus on cycles of deprivation leads to a different kind of social inquiry. More specifically, although we know that people of color are disproportionately exposed to poverty in the first place, research on continuity and change has been hard to accomplish because of the interlocking dynamics of the multiple levels of analysis required to address questions such as: What is the prevalence and timing of compounded deprivation over the life course? How does the legacy of severe initial deprivation differ by race? What factors predict an ascent from compounded deprivation? For example, can educational attainment overcome the experience of severe deprivation in childhood?

Third, there has been a new social transformation of the city. In the years since the concentration of poverty was put on the academic map by Wilson, inner cities have begun to change and diverge from how they are commonly portrayed. The dramatic drop in violence, the increase of suburban poverty, the growth of the black middle class, and large increases in immigration from around the world have reshaped cities like New York, Los Angeles, and Chicago. Indeed, New York is no longer the poster child of urban decay but rather is vibrant and growing. In addition, the Latino American population has rapidly grown around the country, and the ways in which the Great Recession altered the urban landscape—through foreclosures, losses in wealth, and increases in unemployment—are potentially just

as transformative as the upheavals of the 1970s and 1980s.

This article addresses these three issues with a longitudinal analysis of compounded deprivation in a representative sample of the three largest race-ethnic groups in Chicago and American society at large—whites, African Americans, and Latino Americans—over an eighteen-year period that spans the mid to late 1990s, the 2000s, and the Great Recession era at the historical level, and the transition to adulthood at the individual level. Before describing these data in more detail, we begin with a short review of the relevant research and a discussion of how we advance prior contributions to yield new evidence on the dynamics of persistent and compounded hardship.

POVERTY'S MULTIDIMENSIONAL REACH

Social science research in the tradition of Wilson's (2012 [1987]) landmark work has made substantial progress in identifying the impact of individual poverty and neighborhood poverty on child and adolescent outcomes. In general, studies find that family poverty is associated with depression, delinquency, and drug use among adolescents, as well as decreased intellectual development among children, which is thought to operate through poverty's influence on parenting style, home environment, parental efficacy, and cognitive stimulation (Duncan and Brooks-Gunn 1997; Elder et al. 1995; Garrett, Ngandu, and Ferron 1994; Guo and Harris 2000; Lempers, Clark-Lempers, and Simons 1989). Experiencing poverty in early childhood is also linked to long-range outcomes. Using the Panel Study of Income Dynamics (PSID), for example, Greg Duncan, Kathleen Ziol-Guest, and Ariel Kalil (2010) show that family income in childhood predicts earnings and work hours at ages twenty-five to thirty-seven; they argue that the effects of family income in early childhood are stronger for measures of adult attainment than for adult health and behavior outcomes. In addition, Kelly Musick and Robert Mare (2006) find strong evidence that family poverty is transmitted over generations.

Another body of research has considered whether growing up in a high-poverty neighborhood has detrimental consequences for

children and adolescents that are separate from the influences of growing up in a poor family. Reviews of this literature typically conclude that family characteristics have larger effects than neighborhood poverty on multiple problem behaviors (Ellen and Turner 1997; Jencks and Mayer 1990; Leventhal and Brooks-Gunn 2000). For example, studies in the Russell Sage volumes on neighborhood poverty (Brooks-Gunn, Duncan, and Aber 1997a, 1997b) find that proximity to middle-class or affluent neighbors is positively associated with cognitive-academic outcomes for children in disadvantaged neighborhoods, but that family poverty outweighs neighborhood poverty when both conditions are simultaneously examined.

Although the correlation between poverty and detrimental outcomes is largely undisputed, controversy has ensued over the interpretation of causality. According to one claim, the apparent effects of poverty—whether family or neighborhood—reflect instead the prior characteristics and choices of individuals. Susan Mayer (1998), for example, in an argument based on the evidence that the effect of income on children’s outcomes is smaller than many scholars believe, questions the received wisdom on family income and asks if the factors that cause parents to experience low incomes also impede their children’s life chances, inducing a spurious correlation. Mixed evidence from the Moving to Opportunity (MTO) experiment (Ludwig et al. 2012; Sanbonmatsu et al. 2011) has also cast doubt on the causal role of neighborhood poverty, at least with respect to adolescent outcomes and young adult achievement.

An alternative claim points to the longer-term or developmental consequences of concentrated poverty. In the MTO experiment, the average child was over ten years of age at the

beginning of the voucher experiment and thus had already experienced many years of severe childhood poverty.¹ This fact is potentially decisive if concentrated disadvantage has cumulative or lagged effects on development, as suggested in research showing that setbacks in verbal learning persist years after children have been exposed to neighborhoods characterized by concentrated disadvantage (Sampson, Sharkey, and Raudenbush 2008). Also pursuing a strategy that accounts for temporal sequencing across the life course, Geoffrey Wodtke, David Harding, and Felix Elwert (2011), Wodtke (2013), and Patrick Sharkey and Elwert (2011) find that living in a disadvantaged neighborhood has negative effects on high school graduation and cognitive ability, with longer durations of exposure to concentrated disadvantage associated with more negative outcomes.² Moreover, new evidence from a long-term study of the MTO children finds that receiving a voucher is associated with higher adult earnings and that the magnitude of this effect declines with age, eventually flattening out to no effect among those who were adolescents at the time of treatment (Chetty, Hendren, and Katz 2015). This pattern strongly suggests that the duration and timing of exposure to concentrated poverty is important for later adult outcomes.

RESEARCH STRATEGY AND QUESTIONS

The contribution of previous research to estimating the separate effects of individual and contextual poverty on child and adolescent outcomes has been critical to advancing theory and evidence-based policies on poverty. Disentangling family from contextual poverty, however, is an attempt to tease apart what are often highly correlated adversities that co-occur in the same individuals and communi-

1. In the mid-1990s, MTO randomly assigned rent-subsidized vouchers to families living in public housing in high-poverty neighborhoods in five cities (Baltimore, Boston, Chicago, Los Angeles, and New York). The main findings of the experiment are based on later outcome comparisons between the group that was assigned to use the rent-subsidized vouchers in lower-poverty neighborhoods and the group that did not receive rent-subsidized vouchers.

2. Recent research also finds convergence between the MTO and observational studies when the same contexts and later outcomes are directly compared. Julia Burdick-Will and her colleagues (2011) show that concentrated disadvantage is linked to lower cognitive test scores for black children in the Chicago and Baltimore sites of the MTO, where racial segregation is higher than in Los Angeles, New York, or Boston. In Chicago the estimates are virtually equivalent to those reported in Sampson, Sharkey, and Raudenbush (2008) and from another quasi-experimental study.

ties. The piling on of multiple adversities is a substantive reality of American poverty that demands investigation in its own right, especially when it occurs in childhood or early adolescence. Indeed, durable patterns of inequality lead to the concentration in the same places and among the same people—often over long periods of time and generations (Sampson 2012; Sharkey 2013)—of correlated social adversities, such as simultaneous exposure to family- and community-level deprivation. Thus, while the causal identification of the separate effects of family and neighborhood poverty has animated much recent research, this analytic focus deflects attention from persistent, multi-stranded deprivation and its developmental course.

We also know relatively little about deprivation beyond the material realm. One can be poor and yet embedded in a rich network of social support, neighborhood cohesion, and safety. Or one can be poor and face the additional stressors of exposure to violence and neighborhood disorder (Anderson 1999), community distrust, and negative experiences with the police or prison (Pettit 2011; Pettit and Western 2004). While there is a well-known literature on social capital (Portes 1998; Putnam 2000) and a growing body of research on collective efficacy (Sampson, Raudenbush, and Earls 1997), little is known about the life-course evolution of “social-organizational deprivation” and its link to material deprivation and racial disparities. In addition to a general predilection to define deprivation economically, a major reason for this limitation is that few data sets contain direct measures of neighborhood social organization, especially over time (Prewitt, Mackie, and Habermann 2014). Studies such as the PSID provide us with rich portrayals of individual and neighborhood income trajectories, for example, but not the neighborhood contexts related to relational ties, support, efficacy, and exposure to violence. As a result, prior research has for the most part not addressed critical questions: Do the same racial or ethnic patterns in exposure to extreme economic poverty map onto compounded social-organizational deprivation? How much stability and change is there over time? Is social organization at the contextual level a key resource that

helps explain escape from poverty traps (Quillian and Redd 2010) and intergenerational social mobility (Chetty and Hendren 2015)?

This article expands our knowledge of these questions by focusing on the intersection over time of individual and contextual poverty, or what we term “compounded deprivation.” We also argue for a focus on the persistence of compounded material deprivation in addition to the course of compounded social deprivation and its connection to material aspects of poverty. It is only once these links are fully understood that estimating causal impacts can be meaningfully undertaken. Accordingly, our goal is to document the prevalence, developmental course, and correlates of experiencing individual and contextual deprivation, concurrently and for multiple periods. We place special emphasis on the process of climbing out of compounded deprivation.

Our data are drawn from a new follow-up of the Project on Human Development in Chicago Neighborhoods (PHDCN), a three-wave longitudinal cohort study originally conducted from 1995 to 2002. Researchers followed up a random sample of the wave 3 PHDCN participants in 2012 and 2013, as part of the Mixed-Income Project (MIP). These data yield several advantages that make them well suited for our aims.

First, because these data reflect a representative sample of Chicago families, we can examine the prevalence and timing of individual and contextual poverty in a diverse group of adolescents, in contrast to samples that are selected on the outcome of interest, such as poverty. Second, the data cover a significant part of the adolescent and young adult life course—for our focus here on the age nine, twelve, and fifteen cohorts, we have data on poverty status over approximately eighteen years. (In 2013 study participants ranged in age from twenty-six to thirty-two). A third feature is the timing of the data collection: with participants who grew up in the 1980s and 1990s and experienced their late twenties and early thirties during the Great Recession era, we can examine both pre- and post-Great Recession measures of poverty and income. Fourth, the PHDCN and the MIP followed participants wherever they moved in the United States and collected residential histo-

ries, permitting a detailed analysis of the neighborhood environment in which participants lived at every wave of data collection. Finally, unlike some of the larger nationally based studies such as the PSID, the community surveys of the PHDCN provide direct measures of factors like neighborhood social capital and efficacy; in addition, the individual sampling design of the PHDCN captures the racial and ethnic diversity of the United States and how cities have changed in recent decades. In particular, over one-third of the PHDCN sample is African American and one-third is Latino American, with a significant representation of first- and second-generation immigrants.

DATA

The Project on Human Development in Chicago Neighborhoods is a longitudinal cohort study of 6,207 children and their caregivers based on a representative sample drawn from eighty neighborhood clusters (NCs) in the city of Chicago in 1995. A two-stage sampling procedure was conducted. U.S. census data were first used to identify 343 neighborhood clusters (NCs)—groups of two to three census tracts containing approximately 8,000 people who were relatively homogeneous with respect to racial-ethnic mix, socioeconomic status, housing density, and family structure. From these, a random sample of 80 of the 343 NCs was drawn within 21 strata defined by racial-ethnic composition (seven categories) and socioeconomic status (SES; high, medium, and low). Second, within the sampled 80 NCs, children within seven age cohorts (zero [birth], three, six, nine, twelve, fifteen, and eighteen) were sampled from randomly selected households based on a screening of over 35,000 households. Dwelling units were selected systematically from a random start within enumerated blocks. Within dwelling units, all households were listed, and all age-eligible children were selected with certainty. Multiple siblings were thus interviewed within some households. At baseline, the resulting PHDCN sample was 16 percent European American, 35 percent African American, and 43 percent Latino; evenly split by gender; and representative of families living in a wide range of Chicago neighborhoods.

Extensive in-home interviews and assessments were conducted with the sampled children and their primary caregivers three times over a seven-year period, at intervals of roughly two and a half years (wave 1 in 1995–1997, wave 2 in 1997–1999, and wave 3 in 1999–2002). Participants were followed no matter where they moved in the United States. Participation at baseline and retention at wave 3 were relatively high for a contemporary urban sample, 78 percent and 75 percent, respectively. Sampling weights were derived to allow population estimates.

In 2012 and early 2013, the Mixed-Income Project located and reinterviewed randomly sampled participants who had been last contacted at wave 3 of PHDCN in the original birth cohort and the nine- to fifteen-year-old cohorts. Hereafter we define the MIP follow-up as “wave 4.” These cohorts were selected to maximize variation in life-course experiences, and also because the age eighteen cohort had the highest attrition rate at wave 3 and the MIP pilot test indicated that the ages three and six cohorts were the most difficult to locate. The Chicago field operation’s tracking effort was multipronged: electronic, phone-based, and in-person methods (for example, knocking on doors) were all used. The majority of interviews were carried out in person (almost 60 percent), but phone interviews were allowed if respondents preferred them or if they were easier to implement. Despite the long time that had elapsed since last contact at wave 3 and the contemporary big-city setting, MIP achieved a response rate of 63 percent of eligible cases, of which 40 percent were Latino, 37 percent black, and 19 percent white, closely matching the baseline distribution of the PHDCN sample. Ranging between ages twenty-six and thirty-two at wave 4, there were 226, 236, and 217 respondents, respectively, in the nine-, twelve-, and fifteen-year-old cohorts studied in this article.

The main survey at wave 4 was merged with the prospective waves 1 through 3 of PHDCN and several contextual databases. We first used residential histories from each wave to geo-code addresses to census tract boundaries; this allowed us to link individuals to census tract codes for each of the four waves of the com-

bined PHDCN-MIP survey.³ Second, we integrated census data from 1990 and 2000 (interpolated by year) and the American Community Survey (ACS) from 2008 to 2012. Third, we exploited data from the Community Surveys (CS) of the PHDCN, a multidimensional set of assessments by residents of the social-organizational characteristics of Chicago neighborhoods that was carried out at two points in time. Researchers personally interviewed 8,782 Chicago residents, representing all of the city's neighborhoods, in 1995. In 2002 a separate sample of 3,105 residents were interviewed. The basic design for the CS had three stages: at stage 1, city blocks were sampled within each neighborhood cluster; at stage 2, dwelling units were sampled within blocks; and at stage 3, one adult resident (age eighteen or older) was sampled within each selected dwelling unit. The final response rate was over 75 percent in both waves. The design yielded a representative sample of Chicago residents large enough to create reliable between-neighborhood measures at the census tract level between 1995 and 2002. The community survey data were then merged to all respondents at wave 1 and those remaining in Chicago at waves 2 and 3 (about 89 percent at wave 2 and 86 percent at wave 3).

Measures

From these merged data, we constructed measures at both the individual and neighborhood levels. Our main indicator of individual poverty is household income below a certain level at each wave. Because this analysis focuses on severe deprivation, we consider an adolescent to experience individual-level poverty if his or her household income is less than \$10,000 at waves 1 to 3 and less than \$15,000 at wave 4 (to account for inflation). At baseline, the value of \$10,000 falls just below the first quintile of income (for example, 18 percent of adolescents lived in poverty at wave 1).⁴ Income is often misreported, so for comparison we also examine individual deprivation as indexed by welfare receipt. This supplemental indicator, measured at each of the first three waves of data collection, is coded 1 if the focal adolescent's caregiver received public assistance and 0 otherwise. At wave 4 in 2012, when respondents were adults, we base the indicator on whether the participant received public assistance.⁵

We selected a set of key background variables for predicting the course of compounded poverty. So that we can make comparisons among racial-ethnic groups, in much of our

3. Many respondents had moved outside of Chicago. To account for the mobility of the sample we used nationally available census tracts, which were nested within the neighborhood clusters of the original PHDCN sampling design. The census tracts capture the characteristics of all the destination neighborhoods. We assigned the 2000 census tract boundaries for waves 1 to 3 and the 2010 boundaries for wave 4. This strategy reflects the most accurate measure of the characteristics of the neighborhoods in which participants were living at the time of each wave of data collection.

4. The data are weighted to account for both the sampling design and attrition. The sampling weight is designed to adjust for the original stratification of the PHDCN by neighborhood SES and racial composition, along with the age cohort selection and a poststratification of population weights to estimates of the age, gender, and race-ethnicity distribution of children in the city of Chicago in 1995. The attrition weight is defined as the inverse of the probability of being interviewed at wave 4 conditional on being in the study at wave 3. To model the probability of attrition at wave 4 we first multiply imputed missing data from waves 1 through 3 using chained regression equations. We then calculate attrition weights by estimating a logit model for the probability of attrition at wave 4 based on individual- and household-level measures of socioeconomic status and family composition, as well as neighborhood-level measures of demographic composition and social processes (such as collective efficacy and perceived violence). The inverse of each respondent's probability of response is then calculated and standardized by the mean to yield the final attrition weights. We multiply the stratification and attrition weights to produce the final weight. Although we examine results separately using the baseline sampling and attrition weights, the patterns are very similar; we thus present results based on the combined weight. We also use chained regression equations to impute missing data at wave 4, and in all models we control for interview effects on partially completed cases.

5. Adolescents in the age fifteen cohort were not surveyed with their caregiver at wave 3, so for this cohort we use the participant's own receipt of public assistance to indicate individual poverty at both waves 3 and 4.

analysis we limit our sample to those identifying as Latino (30 percent of our weighted adolescent sample), black (45 percent), or white (20 percent). We measure immigrant status with an indicator for the immigrant generation of the adolescent's caregiver (that is, the immigration context of the family of origin): first-generation (29 percent), second-generation (9 percent), or third-generation or later (62 percent). In addition to income deprivation, we account for the socioeconomic context of the adolescent's family of origin with a variable indicating whether the adolescent lived at wave 1 in a house that was owned (48 percent), whether the adolescent's caregiver was married at wave 1 (55 percent), and the educational attainment of the adolescent's caregiver. To account for nonlinearity, we measure educational attainment with a set of three dummy variables: whether the caregiver had less than a high school education (34 percent), a high school degree (15 percent), or more than a high school degree (51 percent). Finally, we include two measures of residential mobility that indicate whether an adolescent (1) moved to a new neighborhood in the city of Chicago (28 percent) or (2) moved outside of Chicago between wave 1 and wave 3 (11 percent). Our logic for these two measures derives from previous research showing large differences in outcomes and neighborhood characteristics by mover-stayer status in Chicago (Sampson 2012, 294–308).

In addition to these background variables, we take advantage of the expansive scope of the PHDCN survey and in our most complete models include components of the adolescents' households and life experiences not accounted for in many other household surveys. The first set focuses on exposure to crime at wave 1 and includes a count of the number of family members with criminal records (family criminality); the sum of forms of domestic violence to which the adolescent was exposed in the past year; the number of delinquent activities in which the adolescent was involved in the past year; and whether the adolescent had seen someone shot, shot at, or stabbed in the past year. The second set of variables comes from the Child Behavior Checklist (Achenbach 1993), administered at wave 1 of PHDCN—aggressive behav-

ior, impulsive behavior, and anxiety or depression. Finally, we include a standardized scale of the adolescent's measured "IQ" at wave 1 based on the Wide Range Achievement Test (WRAT) and the Wechsler Intelligence Scale for Children (WISC) test (Sampson, Sharkey, and Raudenbush et al. 2008, 848), as well as a measure of final educational attainment at wave 4.

Our primary indicator of contextual poverty is the poverty rate of the census tract in which the participant lives at each wave. We define a high-poverty neighborhood as any census tract with a poverty rate of 30 percent or higher. Although any cutoff for poverty is arbitrary, we believe that this definition is justified by the distribution of neighborhood poverty rates, as neighborhoods with a poverty rate of at least 30 percent fall more than one standard deviation above the mean neighborhood poverty rate, both nationally and in the Chicago metropolitan area in 1990, 2000, and 2012. It is also common in the neighborhood effects literature to use 30 percent as a cutoff for high-poverty neighborhoods (Leventhal and Brooks-Gunn 2011; Wilson 2012 [1987], 46). Although we use the neighborhood poverty rate as our primary indicator of deprivation, we also consider unemployment rates and concentrated disadvantage as supplementary measures of contextual deprivation. Our index of concentrated disadvantage includes four tract-level characteristics: unemployment rate, share of families with children headed by a single female, poverty rate, and share of households receiving public assistance income.

We define our main indicator of compounded poverty, or deprivation, as the extent to which participants who experience poverty at the individual level (defined by household income) simultaneously experience it at the contextual level. Thus, at each wave, living in a household with an annual income less than \$10,000 (waves 1 to 3) or \$15,000 (wave 4) and living in a neighborhood with a poverty rate of 30 percent or greater is defined as compounded poverty. The advantage of this definition resides in its clear metric and straightforward interpretation.

Finally, we created a summary index to capture what we call compounded "social-

organizational deprivation” at the neighborhood level. Much has been written about concepts like social capital, collective efficacy, and social (dis)order, including how to measure them and how to separate their different components (see, for example, Portes 1998; Putnam 2000; Quillian and Redd 2010; Sampson, Morenoff, and Earls 1999). Consistent with the analytic focus of this paper, however, our purpose is not to dis sever but to explore the nature of compounded deprivation, in this case with respect to the nonmaterial dimensions

of a neighborhood’s underlying social organization. Based on theoretical grounds and prior research in Chicago (see especially Sampson 2012), we therefore selected five interrelated scales that tap a range of social-organizational conditions at each of the first three waves—from reciprocal exchange networks, collective efficacy (cohesion and social control), and organizational involvement, on the positive end of human flourishing, to perceptions of violence and disorder, on the negative end.⁶

6. We used the PHDCN community surveys matched to individual respondents living in Chicago to create an overall index of neighborhood social organization at each of the first three waves of the study. “Reciprocated exchange” is a five-item scale tapping the relative intensity of social exchange within the neighborhood on issues of consequence for children. Presented with the options of replying “never,” “rarely,” “sometimes,” or “often,” respondents were asked: (1) “About how often do you and people in your neighborhood do favors for each other? By favors we mean such things as watching each other’s children, helping with shopping, lending garden or house tools, and other small acts of kindness.” (2) “When a neighbor is not at home, how often do you and other neighbors watch over their property?” (3) “How often do you and people in this neighborhood have parties or other get-togethers where other people in the neighborhood are invited?” (4) “How often do you and other people in this neighborhood visit in each other’s homes or on the street?” (5) “How often do you and other people in the neighborhood ask each other advice about personal things such as child-rearing or job openings?” These questions tap balanced exchange, although not necessarily intimate bonds.

“Collective efficacy” constitutes two subscales of social cohesion and shared expectations for control. Residents were asked about the likelihood that their neighbors could be counted on to take action if: (1) children were skipping school and hanging out on a street corner, (2) children were spray-painting graffiti on a local building, (3) children were showing disrespect to an adult, (4) a fight broke out in front of their house, and (5) the fire station closest to home was threatened with budget cuts. We measured social cohesion by coding whether residents agreed with the following propositions: (1) “People around here are willing to help their neighbors”; (2) “People in this neighborhood can be trusted”; (3) “This is a close-knit neighborhood”; (4) “People in this neighborhood generally get along with each other”; and (5) “People in this neighborhood share the same values.” Social cohesion and social control were strongly related across neighborhoods.

“Organizational involvement” measured active involvement by residents in (1) local religious organizations, (2) neighborhood watch programs, (3) block groups, tenant associations, or community councils, (4) business or civic groups, (5) ethnic or nationality clubs, and (6) local political organizations.

The “perceived disorder” scale is made up of questions about social and physical incivilities in public. Each respondent was asked: (1) “How much graffiti do you see on buildings and walls in your neighborhood?” (2) “How many vacant or deserted houses or storefronts do you see in your neighborhood?” (3) “How often do you see people drinking in public places in your neighborhood?” and (5) “How often do you see unsupervised children hanging out on the street in your neighborhood?” These were rated as “a big problem,” “somewhat of a problem,” or “not a problem.”

Finally, “violence” was measured based on the following items: (1) “During the past six months, how often was there a fight in this neighborhood in which a weapon was used?” (2) “During the past six months, how often was there a violent argument between neighbors?” (3) “During the past six months, how often were there gang fights?” (4) “During the past six months, how often was there sexual assault or rape?” and (5) “During the past six months, how often was there a robbery or mugging?”

We subjected each scale—corrected for measurement error through an Empirical Bayes model that adjusted for the demographic characteristics of respondents—to a principal components analysis. A single factor accounted for a substantial portion of the covariation among indicators at each wave. Disorder and violence load negatively, and exchange, collective efficacy, and organizational involvement load positively. We capture the shared covariance among measures in the form of the first principal component. We reverse-coded the index so that a high value represents compounded social-organizational deprivation.

RESULTS

Figure 1 shows the rate of individual and contextual poverty for our sample, weighted to reflect the population and accounting for potential attrition bias. We begin with our two indicators of deprivation at the individual level: income-defined and receipt of public assistance. At wave 1, in 1995, 18 percent of our sample experienced individual-level poverty as defined by having a household income less than \$10,000. The rate of individual poverty declined through waves 2 and 3, to a low point of 13 percent at wave 3 in 2001. But by the fourth wave of data collection, corresponding to the aftermath of the Great Recession, 19 percent of our sample experienced individual-level poverty. When we define individual-level poverty using receipt of public assistance, 26 percent of our sample was poor at wave 1, declining to 12 percent at wave 3, then increasing again to 26 percent by wave 4. With the exception of wave 3, a bigger share of our sample is defined as poor when we use the public assistance definition than when we use the household income definition; however, both indicators follow the same temporal trend.

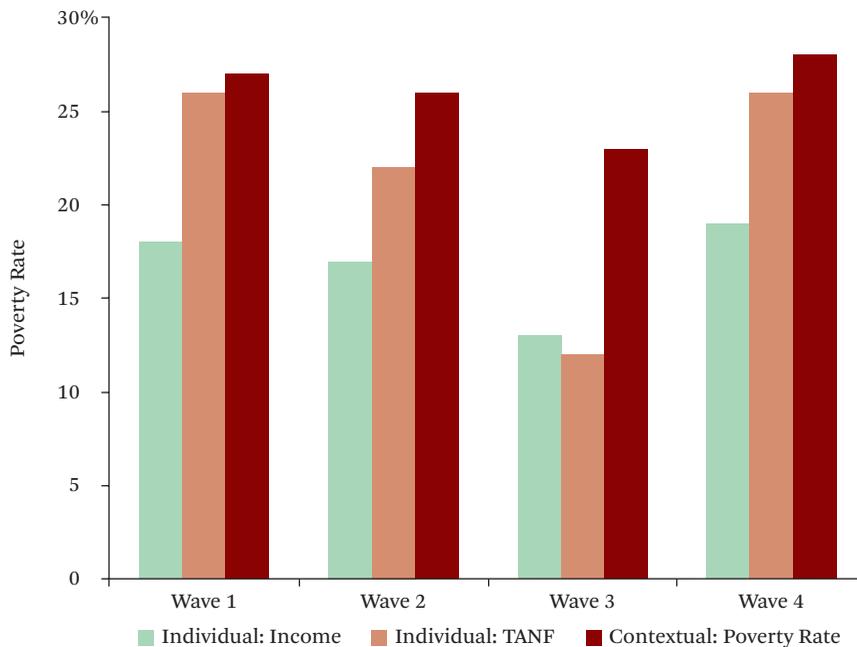
Contextual poverty exhibits less temporal variation but a similar overall trend. At the be-

ginning of the study, about 27 percent of adolescents were living in a high-poverty neighborhood. The proportion living in a high-poverty neighborhood declined slightly, to 23 percent, at wave 3, and then increased again, to 28 percent, by wave 4 in 2012.

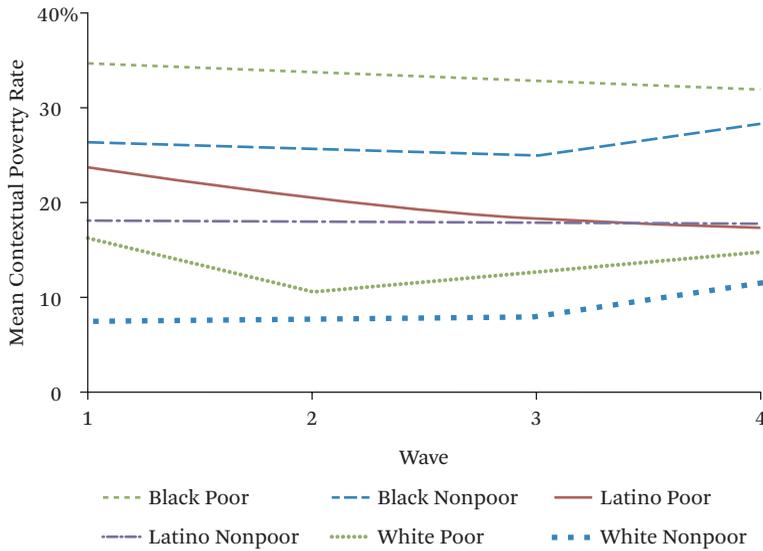
Findings from prior neighborhood-effects research both nationally and in Chicago (Sampson 2012; Sharkey 2013) lead us to expect significant racial differences in the experience of neighborhood poverty. Figure 2 supports this expectation with respect to differences in neighborhood poverty rates for the three main racial-ethnic groups in our sample: Latino, black, and white. However, consistent with our goal of examining compounded poverty, we also examine the simultaneous experience of individual-level poverty. The resulting model reveals neighborhood poverty rates for six groups at each wave. There are very few whites in our sample who had household incomes below \$10,000 at waves 1 to 3 and \$15,000 at wave 4, an important substantive finding in itself but one that warrants caution when comparing poverty and nonpoverty groups by racial-ethnic group.

In general, we see that blacks experienced significantly higher neighborhood poverty

Figure 1. Weighted Prevalence of Individual and Contextual Poverty



Source: Authors' calculations using data from the U.S. Census Bureau and PHDCN-MIP.

Figure 2. Mean Contextual Poverty Rate by Race-Ethnicity and Individual Poverty Status

Source: Authors' calculations using data from the U.S. Census Bureau and PHDCN-MIP.

rates than Latinos or whites across the study period from 1995 to 2012. Note that the mean neighborhood poverty rates remain fairly constant and high across waves for blacks, at above 25 percent, and for Latinos, at between 17 and 24 percent. Whites experienced a slight increase in mean neighborhood poverty between waves 3 and 4, but the wave 4 (or post-Great Recession) mean for all whites, at 12 percent, was still significantly lower than for blacks and Latinos at any wave.⁷ Blacks who are individually poor, defined by low household income, also have significantly higher mean neighborhood poverty rates than any other group for the entire duration of the study. This finding is not unexpected, but what is striking is that *even blacks who are not individually poor* have higher mean neighborhood poverty rates than Latinos and whites who *are* individually poor. This kind of “flipped” effect underscores the deep connection between race and concentrated poverty in Chicago.

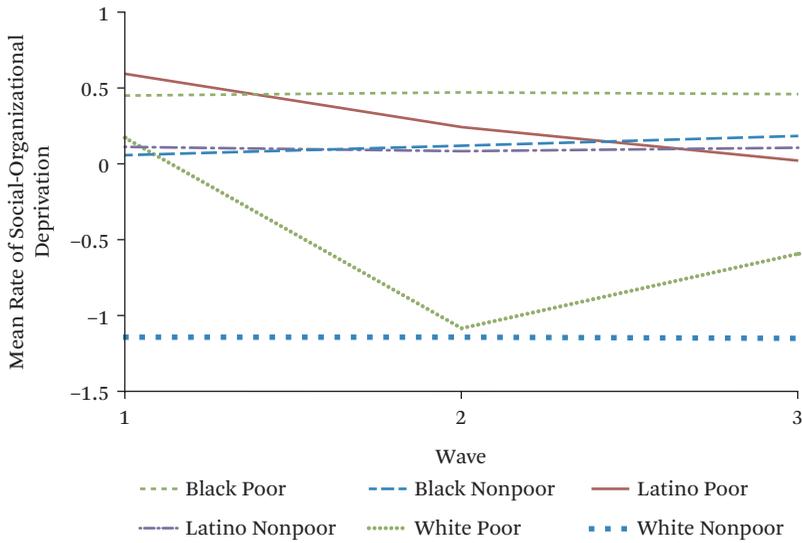
The same flipped pattern holds for our supplemental measures of contextual material deprivation: neighborhood unemployment

rate and concentrated disadvantage. The black-white ratio of mean neighborhood unemployment rates of the black *nonpoor* to the white *poor* at wave 1 is 1.86, increasing to over 2.00 by wave 3 before falling to 1.75 at wave 4. There are stark differences in neighborhood concentrated disadvantage by racial-ethnic group as well. Blacks' scores on the concentrated disadvantage index are substantially higher than those for both whites and Latinos across all four waves of the study. And again, the rates of concentrated disadvantage are consistently higher across time for the black *nonpoor* than for the white *poor*.

As important as material deprivation is, we noted earlier that contextual deprivation also takes on social network and organizational forms. In figure 3, we display the mean values on our overall index of social-organizational deprivation for Chicago residents at waves 1 to 3 by the same race-ethnic group and individual poverty status categories as shown in figure 2. Except for the tiny group of white *poor* at wave 1, whites are again the most advantaged group, with an average score on the

7. Figure 2 shows an increase in contextual poverty among nonpoor blacks between wave 3 in 2002 and wave 4 in 2013, yet further examination shows that this increase occurred primarily after the Great Recession, not between 2002 and 2007.

Figure 3. Mean Rate of Social-Organizational Deprivation by Race-Ethnicity and Individual Poverty Status



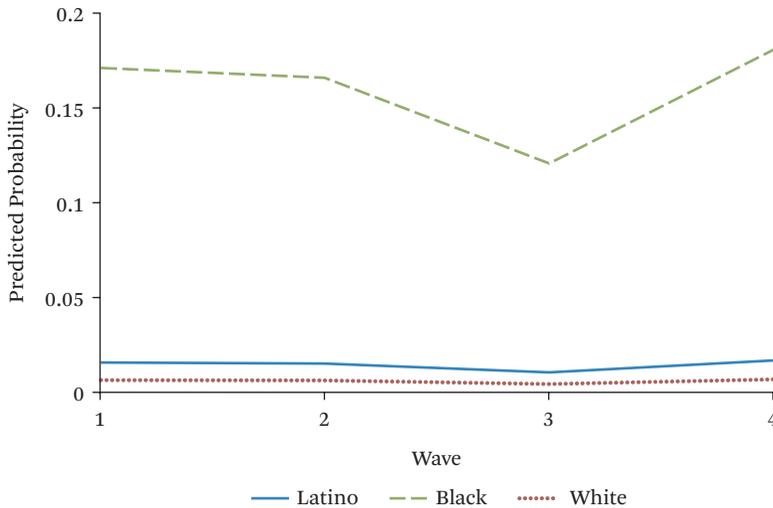
Source: Authors' calculations using data from PHDCN-MIP.

social deprivation scale well below the mean at every wave. Latinos and blacks have mean scores above 0 at each wave. But whereas blacks are decidedly more disadvantaged than Latinos in terms of neighborhood poverty rates, as shown in figure 2, figure 3 demonstrates that Latinos and blacks are *similarly disadvantaged* in terms of neighborhood social organization. Our neighborhood poverty and social-organizational measures thus capture distinct types of contextual deprivation, revealed by the differences between figures 2 and 3.

CROSS-LEVEL DEPRIVATION

One of our major goals is to explore the probability of experiencing compounded poverty—both contextual and individual—across time. Aggregate estimates mask heterogeneity by racial and ethnic group here as well, so figure 4 presents results separately for Latinos, blacks, and whites. This figure is based on a logistic panel regression model that predicts compounded poverty at each wave, controlling for demographics—racial-ethnic group, sex, and age (see model 1 in table 1). The non-overlapping social worlds of compounded deprivation

are clearly seen. Blacks exhibit the highest predicted probability, at 0.17 at wave 1. This estimate declines to approximately 0.12 at wave 3, but increases a full 50 percent, to 0.18, by wave 4. Latinos and whites, by contrast, have much lower and near-zero predicted probabilities of experiencing compounded poverty; at no time period is the predicted probability more than 0.02 for Latinos or whites. The significant odds ratio of 31.04 for the black dummy variable in model 1 reflects the elevated probability of experiencing compounded poverty among blacks compared to whites. This value may appear to be unusually large, but we should reiterate the findings from our descriptive analysis that experiencing compounded poverty is particularly rare among whites: at none of the four waves did more than three white adolescents have both a household income below \$10,000 (or \$15,000) and live in a neighborhood with a poverty rate of at least 30 percent. Therefore, it is to be expected that the odds ratio comparing blacks to whites will be quite substantial and trend toward infinity given the “structural zero” of compounded poverty in the transition to young adulthood that reflects the reality among whites. Put differently, experiencing

Figure 4. Predicted Probability of Compounded Poverty by Race-Ethnicity

Source: Authors' calculations using data from the U.S. Census Bureau and PHDCN-MIP.

compounded poverty is a phenomenon limited almost entirely to blacks.

Having established the probability of compounded poverty in the three major racial-ethnic groups in our sample, we turn to a more expansive multivariate analysis that predicts exposure to compounded poverty using additional background characteristics. Table 1 shows the results of three additional clustered logistic models.⁸ Model 2 predicts the binary outcome of compounded poverty using adolescents' age, sex, race-ethnicity, dummy variables for wave, and additional covariates that capture characteristics of their home lives at baseline and later experiences with residential mobility. Based on the descriptive analysis in figure 1, which shows poverty at its lowest level at wave 3, we define this time period as our reference category.

The results show that controlling for the additional background characteristics attenuates the odds ratio for blacks, at 15.80, compared to 31.04 in model 1. In addition to the association between compounded poverty and race, model 2 shows that having a first-generation immigrant caregiver is associated with much lower odds of compounded poverty compared to having a caregiver who is a third- or later-generation immigrant. The socioeconomic status of the adolescent's household at wave 1 is associated with compounded poverty controlling for the adolescent's age, race, and wave: living in an owned home at wave 1 is associated with lower odds of compounded poverty, and an adolescent whose caregiver has less than a high school education is nearly three times as likely to experience compounded poverty compared

8. We have multiple observations of exposure to compounded poverty at each wave of the study ($n = 2,612$) and thus a person-period model. Because our data are clustered by individual across time, we correct standard errors in the logistic regressions. We also estimate a mixed-effects logistic regression in STATA that accounts for both fixed and person effects, given by $\Pr(y_{ij} = 1 | \mathbf{x}_{ij}, \mathbf{u}_i) = H(\mathbf{x}_{ij}\beta + \mathbf{z}_{ij}, \mathbf{u}_i)$, where \mathbf{x}_{ij} is a vector of covariates for the fixed effects and β represents the corresponding coefficients. The vector \mathbf{z}_{ij} represents the random intercepts and \mathbf{u}_i represents the random effects. H is the logistic cumulative distribution function. This modeling strategy allows us to estimate whether the underlying probability of compounded poverty differs among individuals; we find that there is substantial individual heterogeneity in the propensity to experience compounded poverty, with a significant standard deviation of the individual intercept in all models estimated. Although the substantive results from the mixed-effects model are very similar to the model with clustered standard errors, the confidence intervals in the former are much larger. Table 1 presents the clustered logistic models.

Table 1. Clustered Logistic Models Predicting Compounded Poverty: Exponentiated Coefficients

	Model 1	Model 2	Model 3	Model 4
Age	1.022 [0.916, 1.141]	0.985 [0.873, 1.112]	0.930 [0.813, 1.063]	0.948 [0.824, 1.090]
Sex (male = 1)	0.785 [0.442, 1.392]	1.040 [0.598, 1.808]	1.135 [0.658, 1.956]	1.133 [0.656, 1.955]
Latino	2.465 [0.728, 8.350]	1.913 [0.527, 6.945]	1.716 [0.488, 6.027]	1.600 [0.432, 5.918]
Black	31.04*** [9.896, 97.37]	15.80*** [4.928, 50.66]	11.48*** [3.709, 35.54]	11.80*** [3.849, 36.19]
Wave 1	1.666 [0.813, 3.415]	1.473 [0.684, 3.174]	1.155 [0.524, 2.548]	1.264 [0.545, 2.930]
Wave 2	1.536 [0.823, 2.867]	1.458 [0.744, 2.856]	1.283 [0.645, 2.554]	1.350 [0.662, 2.749]
Wave 3	Reference	Reference	Reference	Reference
Wave 4	1.278 [0.302, 5.412]	2.119 [0.397, 11.31]	4.241 [0.663, 27.13]	3.394 [0.504, 22.84]
Caregiver first-generation		0.323* [0.119, 0.880]	0.323* [0.111, 0.939]	0.354+ [0.114, 1.097]
Caregiver second-generation		0.301 [0.049, 1.857]	0.263 [0.038, 1.835]	0.286 [0.040, 2.040]
Homeowner wave 1		0.334** [0.153, 0.731]	0.387* [0.162, 0.927]	0.405* [0.170, 0.964]
Caregiver education: less than high school		2.978* [1.125, 7.881]	2.599+ [0.881, 7.671]	2.678+ [0.954, 7.513]
Caregiver education: high school degree		Reference	Reference	Reference
Caregiver education: greater than high school		0.553 [0.207, 1.477]	0.540 [0.194, 1.500]	0.619 [0.235, 1.631]
Moved in Chicago		1.285 [0.694, 2.377]	1.108 [0.579, 2.119]	1.100 [0.571, 2.117]
Moved outside of Chicago		0.527 [0.163, 1.705]	0.400 [0.099, 1.616]	0.392 [0.098, 1.568]
Wave 4 educational attainment				0.835 [0.593, 1.177]
Additional individual background characteristics ^a			Yes	Yes
Observations	2,612	2,612	2,612	2,612

Source: Authors' calculations using data from the U.S. Census Bureau and PHDCN-MIP.

Note: 95 percent confidence intervals are in brackets.

^aAdditional individual background characteristics include caregiver marital status, family criminality, domestic violence, delinquency, exposure to violence, aggression, impulsivity, anxiety or depression, and IQ, all measured at wave 1.

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

to an adolescent whose caregiver has a high school degree.

Model 3 in table 1 includes all of the covariates from model 2 and adds an additional series of background characteristics from wave 1 that capture the adolescent's exposure to crime (both within the household and the neighborhood); measures of emotional and behavioral well-being; and individual differences long noted as salient in the literature on human capital attainment (Heckman 2006), including both cognitive skills (such as ability) and noncognitive skills (such as self-control). Notwithstanding these extensive additional covariates, our finding about race remains disturbingly robust. Notably, the odds ratio for blacks declines from around 16.0 in model 2 to about 11.5 but remains significant and substantial, reflecting the much greater odds of experiencing compounded poverty among blacks compared to whites. The first-generation immigrant and homeownership indicators also remain significant and negatively associated with compounded poverty independent of family criminality, exposure to violence, and any emotional or behavioral problems experienced by the adolescent, while having a caregiver with less than a high school education is associated with greater odds of experiencing compounded poverty compared to having a caregiver with more education.

Figure 5, which shows the conditional probability of experiencing compounded poverty based on model 3 shown in table 1, allows us to see temporal trends disaggregated by race. Blacks still have higher predicted probabilities of experiencing compounded poverty than Latinos and whites at all waves of the study, controlling for all of the background covariates in table 1. The predicted probability of compounded poverty for blacks declines from about 0.15 at wave 1 to 0.11 at wave 3, before increasing to 0.16 in the Great Recession era between waves 3 and 4. Although less than the unadjusted magnitude in figure 4, this is still a 45 percent increase from pre- to post-Great Recession in compounded deprivation among blacks. In contrast, the predicted probability of compounded poverty among Latinos remains below 0.02 for the duration of the study, whereas among whites it never rises above 0.01.

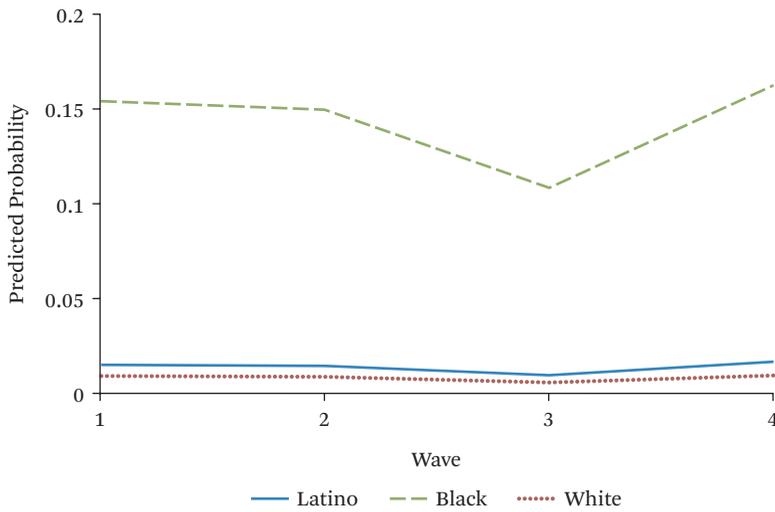
Our final model in table 1 presents a strict test by introducing final educational attainment. Although education has been shown to be influenced by neighborhood and family poverty (Wodtke, Harding, and Elwert 2011), our goal is to determine the persistence of the racial disadvantages that we have observed to this point. Model 4 thus controls for wave 4 educational attainment as a stand-in for the differential trajectory that adolescents may take after accounting for their background and wave 1 characteristics. Final educational attainment, however, is not independently associated with experiencing compounded poverty, and controlling for educational outcomes does not alter our main findings about the association between race and compounded poverty. Indeed, the odds ratio for blacks barely budes from model 3, and whites remain uniquely advantaged despite adjusting for the socioeconomic characteristics of the household in which they were raised and major individual differences in human capital potential and final educational attainment.

Moreover, we see similarly stark disparities when predicting social-organizational deprivation using race-ethnicity and the same covariates we use to predict compounded poverty in models 3 and 4. Controlling for caregiver, background, and other wave 1 characteristics, being black or Latino is associated with significantly higher scores on the social-organizational deprivation scale, with blacks having an average score 1.10 points above whites and Latinos 0.85 points above whites. This multivariate finding reflects the mean differences in social-organizational deprivation by racial-ethnic group shown in figure 3.

PERSISTENT AND COMPOUNDED DEPRIVATION

The models we present here have shown that racial-ethnic background and family socioeconomic characteristics strongly predict the course of compounded poverty. But how persistent or chronic is compounded poverty? In particular, conditional on background characteristics, what is the effect of being in compounded poverty at the start of the study on later compounded poverty? Equally

Figure 5. Predicted Probability of Compounded Poverty by Race-Ethnicity, Conditional on Background Characteristics and Individual Differences



Source: Authors' calculations using data from the U.S. Census Bureau and PHDCN-MIP.

important, conditional on being in compounded poverty status at baseline, who is most likely to *transition out of* compounded poverty?

In table 2, we address these questions in the form of a basic change model that predicts compounded poverty subsequent to wave 1, conditional on compounded poverty at wave 1 and other background (racial-ethnic group, caregiver immigrant generation, caregiver education) and wave 1 (age, living in an owned home) characteristics. Our dependent variable is binary, where 1 indicates that the participant experienced compounded poverty in at least one wave of the study after wave 1: a participant receives a 1 on this variable if they experienced compounded poverty at wave 2, wave 3, wave 4, or any combination of these three waves. (Being in compounded poverty at all waves was a very rare event and confined to

blacks only.) This binary outcome is estimated with logistic regression.

The results from model 1 show that persistence is substantial. The legacy of inequality is such that the odds ratio corresponding to compounded poverty at wave 1 is greater than 7, with a 95 percent confidence interval of approximately 5 to 10. We can interpret these findings to conclude that living in a low-income household in a neighborhood with a high poverty rate at wave 1 is associated with much lower odds of an adolescent escaping these conditions at later waves; the experience of compounded poverty is powerfully durable.⁹

The characteristic that is most strongly predictive of falling into compounded poverty at later waves is being black compared to being white, controlling for background and wave 1 characteristics (including exposure to compounded poverty at wave 1). This odds ratio,

9. We also ran the models in table 2 using compounded poverty at wave 1, 2, or 3 to predict compounded poverty at wave 4, as many of the adolescents lived with their primary caregivers during the first three waves of the study before establishing independent residences by wave 4. In model 1, compounded poverty at one of the first three waves significantly predicts compounded poverty at wave 4, holding all else constant. Once we add the additional background characteristics in model 2 and wave 4 educational attainment in model 3, compounded poverty during adolescence no longer significantly predicts compounded poverty at wave 4, though the association remains positive. Across all models, being black compared to white is strongly and positively associated with compounded poverty at wave 4.

Table 2. Logistic Models Predicting Stability and Change in Persistent Compounded Poverty, Waves 2 to 4: Exponentiated Coefficients

	Model 1	Model 2	Model 3
Compounded poverty wave 1	7.242*** [5.046, 10.39]	10.15*** [6.071, 16.98]	9.700*** [5.833, 16.13]
Age at wave 1	0.970 [0.893, 1.053]	0.918 ⁺ [0.832, 1.012]	0.948 [0.856, 1.050]
Sex (male = 1)	1.113 [0.853, 1.452]	1.246 [0.869, 1.785]	1.253 [0.901, 1.743]
Latino	1.111 [0.503, 2.458]	1.018 [0.438, 2.366]	0.840 [0.336, 2.099]
Black	10.41*** [6.076, 17.84]	8.602*** [4.294, 17.23]	8.824*** [4.479, 17.38]
Caregiver first-generation	0.397* [0.182, 0.863]	0.312* [0.133, 0.734]	0.381* [0.151, 0.957]
Caregiver second-generation	0.371 [0.089, 1.551]	0.269 [0.047, 1.528]	0.310 [0.047, 2.047]
Homeowner wave 1	0.320*** [0.200, 0.511]	0.258*** [0.132, 0.503]	0.268*** [0.138, 0.518]
Caregiver education: less than high school	2.209* [1.141, 4.274]	1.683 [0.720, 3.934]	1.688 [0.717, 3.978]
Caregiver education: high school degree	Reference	Reference	Reference
Caregiver education: greater than high school	0.488* [0.269, 0.885]	0.442 ⁺ [0.195, 1.005]	0.523 [0.233, 1.178]
Wave 4 educational attainment			0.768 ⁺ [0.578, 1.019]
Additional individual background characteristics ^a		Yes	Yes
Observations	653	653	653

Source: Authors' calculations using data from the U.S. Census Bureau and PHDCN-MIP.

Note: 95 percent confidence intervals are in brackets.

^aAdditional individual background characteristics include caregiver marital status, family criminality, domestic violence, delinquency, exposure to violence, aggression, impulsivity, anxiety or depression, and IQ, all measured at wave 1.

⁺ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

too, is very large, which is consistent with earlier findings: blacks are more likely than whites and Latinos to experience individual poverty at each wave, and as we saw in figure 2, blacks also have higher mean neighborhood poverty rates than whites and Latinos. But even when we adjust for where an individual starts out, being black, compared to being white or Latino, puts one at much greater risk of later compounded poverty.

The significant odds ratio for the indicator that the adolescent's caregiver has less than a

high school education suggests that adolescents who grew up in homes where their caregivers had low levels of educational attainment have higher odds of experiencing compounded poverty later in adolescence and young adulthood, holding constant racial-ethnic background, age, homeownership, and compounded poverty at wave 1. This independent association of educational attainment with compounded poverty complements other recent findings that individuals with low levels of completed education are especially disad-

vantaged across a number of domains, employment and incarceration in particular (Western 2006). Being black and poorly educated is a particularly powerful combination of correlated adversities.

Model 2 in table 2 parallels model 3 in table 1 by expanding the number of covariates to include additional background and wave 1 characteristics of the adolescents in our sample and their households. Even with these additional controls capturing exposure to crime and emotional or behavioral problems, the odds ratios for the early experience of compounded poverty and being black compared to white remain significant, positive, and substantial. This suggests that other background characteristics do not mediate the association between race and compounded poverty and the durability of compounded poverty. Put differently, experiencing compounded poverty is so entrenched that a black adolescent who lives in a poor household in a high-poverty neighborhood at wave 1 but who is advantaged in other respects—he or she may have educated caregivers, experience low exposure to violence, and suffer few emotional or behavioral disadvantages—still has relatively low odds of escaping compounded poverty in the transition to young adulthood.

Finally, introducing wave 4 educational attainment in model 3 once again does not change our main conclusions. The wave 4 educational attainment odds ratio of 0.768 suggests that higher educational attainment by wave 4 is associated with lower odds of experiencing compounded poverty at waves 2, 3, or 4, but this association is only marginally significant, and the odds ratios for being black and experiencing compounded poverty at wave 1 remain large, positive, and significant: the legacy of inequality is not easily erased even with advances in schooling. Our results from all three models in table 2 hold when we run the models on a sample restricted to just blacks and Latinos. Nor does adjusting for social-organizational deprivation erase the strong legacy of prior disadvantage: the odds ratios for compounded poverty at wave 1 and for being black are 8.68 and 6.29, respectively (results not shown). Although a full analysis is beyond the scope of this article, social-organizational deprivation in the adolescent's wave 1 neighborhood is nonetheless pos-

itively linked with experiencing compounded poverty at later waves, controlling for the adolescent's age, race-ethnicity, caregiver's education, caregiver's immigrant generation, and caregiver's homeownership: the more social-organizational deprivation the adolescent experiences in his wave 1 neighborhood, the greater the odds that he or she will later experience compounded poverty. Once we account for the additional covariates in model 3, the association between social-organizational deprivation at wave 1 and later compounded poverty is reduced (t ratio = -1.86).

CONCLUSION

Despite theoretical motivation stemming from assertions of the importance of “cycles of deprivation” in the classic work, the trend in poverty research in recent years has been to dissect individual components and to estimate the effects of specific dimensions of poverty. While essential, this approach overlooks how severe deprivation is experienced in the United States, especially in cities that have undergone substantial changes in immigration and demographic composition as well as the social hardships brought on by the Great Recession. To address this issue, the first goal of our article was to document core facts about severe deprivation, with a focus on the prevalence of individual and neighborhood poverty in the transition to young adulthood during the Great Recession era.

Prior research prepared us to expect that adolescents from low-income households live in neighborhoods with higher poverty rates than do adolescents who live in higher-income households. But race matters greatly for this finding, in counterintuitive ways when considered over the long run. Based on data for three cohorts of adolescents living in Chicago, we find that over the eighteen years from 1995 to 2013, blacks who were nonpoor had higher mean neighborhood poverty rates at wave 1, *and at every subsequent wave*, than Latinos and whites who were individually poor at each wave. Blacks in our study, even the nonpoor, were also decidedly more disadvantaged than whites and Latinos in terms of neighborhood unemployment rates and concentrated disadvantage. Furthermore, nonpoor blacks experienced substan-

tially more deprivation than poor whites in dimensions of neighborhood social organization, such as low collective efficacy and exposure to violence.

Our second goal built on the first by introducing the concept of compounded poverty, or deprivation, which describes the extent of simultaneous exposure to both individual and contextual poverty during adolescence and young adulthood. Although the aggregate prevalence of this joint poverty exposure is relatively low in our sample, ranging from 6 percent to 9 percent across waves, it varies from between 11 and 18 percent of blacks across time to very low exposure for Latinos and virtually none for whites. Our measure of compounded deprivation is thus a major example of the correlated adversities to which black adolescents in our sample were differentially exposed as they transitioned into young adulthood.

Our third aim was to determine the characteristics that predict exposure to compounded poverty at any given wave and across waves, including the period of the Great Recession. Although prior literature has put forth many factors to explain poverty, whether broken homes, low parental education, large families, criminal involvement, exposure to violence, impulsivity, dropping out of school, or low IQ, these individual factors work against a backdrop of deep and persistent inequality over the life course. Indeed, despite taking account of an extensive group of such background characteristics and individual differences, we find that blacks experienced much higher odds of compounded poverty over time—over ten times greater than whites. Latinos also tended to have higher odds of experiencing compounded poverty than whites, but not nearly the same differential likelihood as blacks.

Table 2 further informed us about the persistent grip of compounded poverty, revealing that compounded deprivation is very difficult to escape. Overall, adolescents who experienced compounded poverty at wave 1 had over seven times higher odds of compounded poverty at later waves than did adolescents who were not both individually poor and living in a high-poverty neighborhood at wave 1, suggesting a kind of “poverty trap” that ensnares individuals for long periods. Despite a

substantial association between compounded poverty at wave 1 and subsequent exposure to compounded poverty, whites were better able to escape early severe deprivation in the future; in a sense, they were “protected” from ongoing severe deprivation. Such is decidedly not the case for blacks, who by wave 4 had a predicted probability of compounded poverty of 0.16. This rate of compounded poverty is not only dramatically different from that for whites but also higher than the national average of individual poverty, which was 14.5 percent in 2013 (DeNavas-Walt and Proctor 2014). Perhaps more surprising, more blacks in our sample experienced compounded poverty at wave 4 than were married (11 percent), and nearly as many experienced compounded poverty as had graduated from college (21 percent).

Moreover, our analysis shows that while there were declines in individual and contextual poverty from the mid-1990s to the early 2000s, there were sharp upticks in individual poverty in the aftermath of the Great Recession. The pattern for contextual poverty follows the same general trend, with a less dramatic dip in the early 2000s. But further scrutiny of the overall pattern of compounded poverty results in rather stunning differences by race that are not explained by baseline or individual characteristics. As shown in figure 5, the probability of experiencing compounded poverty increased 45 percent from wave 3 to wave 4 among blacks, whereas among Latinos and whites it hovered near zero. Our data thus provide fresh evidence of the deep connection between race and the aftermath of the Great Recession, along with the crosscutting economic adversities that shape the transition to young adulthood and arguably into middle age.

Taken together, our results call into question common strategies to dissect or tease apart the effects of what are closely linked social realities that unfold in interconnected form over time. Likewise, our results point to a need to consider more holistic interventions that treat poverty as a package of material and social deprivations faced by children as they make the important transition to adulthood. Another important question for the future con-

cerns the malleability of poverty traps, in particular as a function of the social-organizational features of neighborhoods (Quillian and Redd 2010) and the contextual origins of intergenerational social mobility (Chetty and Hendren 2015). Most interventions are time-constrained such that outcomes are measured in the short run. The evidence implies that we need to make durable investments in disadvantaged urban neighborhoods instead—to match the persistent nature of the social and institutional disinvestment that such neighborhoods have endured over many years (Sharkey 2013, 179). The field of poverty research will benefit from a more direct consideration of the long-term dynamics of compounded deprivation, both material and social-organizational.

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