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Residential mobility and dynamic neighborhood change during the transition to adulthood

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ABSTRACT

This article examines the neighborhood attainment outcomes of individuals transitioning out of adolescence and into adulthood. Given the dynamic nature of this period, we may expect significant upward and downward changes in young adult residential environments relative to the adolescent neighborhood. Using U.S. data from the National Longitudinal Study of Adolescent to Adult Health, we examined movement across matrices of neighborhood poverty and quality. While, as expected, there is stickiness on the diagonal, that is movement which extends inequality, we found large groups of young adults making upward and downward moves, particularly Hispanics. The study points to life course events related to human capital, income and household formation as important factors shaping significant movement up and down the neighborhood poverty and quality distributions.

1. Introduction

The transition from adolescence to adulthood represents the most dynamic period in the life course. It is during this period that significant life course events such as leaving the parental home, post-secondary educational attainment, full-time employment, marriage, and parenthood first occur (Bernard, Bell, & Charles-Edwards, 2014). These events either represent or coincide with important socioeconomic status developments in which individuals are accruing education, skills, assets and debts, which may induce dramatic changes in life opportunities and life course trajectories (Furstenberg, 2008). Moreover, experiences during the transition to adulthood have become more heterogeneous and less temporally ordered, partially due to the evolving educational and occupational expectations that have lengthened the transition period (Bruckner & Mayer, 2005; Shanahan 2000).

The dynamism of this period is also reflected in its high rates of residential mobility. Furthermore, it is during this period that individuals are first confronted with the task of making residential choices on their own, a decision that was governed by parents and caretakers during childhood and the teenage years. The interaction of significant life course events, the accumulation of assets and debts, high mobility rates, and the freedom to make residential decisions may lead to dramatic shifts in residential environments relative to the adolescent neighborhood. This may be particularly true for millennial young adults, who are the most open to change of any generation, which includes interracial dating, reception to immigrants and nontraditional family arrangements (Taylor & Keeter, 2010). This open-mindedness may lead to unconventional choices in neighborhood environments.

The importance of the transition to adulthood period has not been lost on residential mobility research. Numerous studies have examined the probabilities of residential mobility, move distance, and the interaction between mobility and certain life course events during this period (Coulter, Van Ham, & Feijten, 2011; Garasky, 2002; Jang & Snyder, 2015; Warner & Sharp, 2016). However, few studies have examined young adult neighborhood attainment outcomes after residential moves, an important area of research given increasing evidence showing associations between neighborhood context, in particular movement in and out of disadvantaged environments, and individual well-being including health and socioeconomic status (Brazil & Clark, 2017; Lippert, 2016; South & Crowder, 1997; South, Crowder, & Chavez, 2005).

Prior social scientific research on neighborhood attainment in other periods of the life course has demonstrated resilient disadvantage in the neighborhood environments of poor and minority households. Specifically, studies have found that minorities are less likely than whites to move, and when they do relocate, they are less likely to transition to lower poverty neighborhoods (Sharkey, 2012; South et al., 2005). However, these studies focus on periods of the life course when residential mobility is low, lifestyle changes are less likely, and disadvantage may be more entrenched. Moreover, most studies rely on

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average place outcomes, which are often reported as mean percent poverty or racial composition. This methodological choice hides significant movement across the neighborhood attainment distribution and combines quite different residential outcomes that potentially obscure potential dynamism in the locational attainment of young adults.

In this study, we follow a nationally representative sample of U.S. adolescents in young adulthood and track changes in their neighborhood environments after residential moves. We move away from averages and focus on significant moves up and down the neighborhood poverty and quality distributions to highlight the dynamism in residential environments that exists during this important period of demographic change. We also demonstrate the importance of life course events related to human capital, income and family formation in shaping the residential trajectories of young adults.

2. Background and previous research

2.1. The transition to adulthood as a period of dynamic change

Residential mobility rates in the United States outside the ages of 18 to 34 are relatively low (Benetsky, Burd, & Rapino, 2015). Households with school-aged children have lower rates of mobility because of strong attachments to place, homeownership, and a desire to minimize changes to child developmental contexts (Anderson, Leventhal, Newman, & Dupéré, 2014; Geist & McManus, 2008; South & Crowder, 1997). The mobility of minority families is further constrained by limited socioeconomic resources, with non-mobile white children experiencing greater improvements in neighborhood socioeconomic status relative to minority children (Timberlake, 2009).

For the families that do move, several studies have documented strong consistency in their neighborhood environments. For example, Quillian (2003) found re-entries back into poor neighborhoods were common, especially among African-American, low-income, and female-headed family households. Low-income and minority families in particular are constrained in their neighborhood choices by limited resources (South & Crowder, 1998). An analysis of the Moving to Opportunity (MTO) program, a U.S. government initiative to test whether providing vouchers and special counseling improve the outcomes for households who move from inner-city neighborhoods, found no statistically significant differences in the socioeconomic and racial characteristics of mover and non-mover neighborhoods, particularly amongst African-Americans (Clark, 2005). Studies of retirees and other adult populations have found similar continuity in neighborhood environments after residential moves (Sharkey, 2008; South & Crowder, 1997).

Unlike in childhood, adolescence and older adulthood, the transition to adulthood has greater potential for non-trivial changes in the neighborhood environment because of the dynamic nature of this period. The life-course perspective offers an orienting framework for understanding this dynamism. Following the seminal works of Elder (1985, 1998), the life course is a series of interdependent pathways that individuals go through as they age. The life course transitions that characterize these pathways are not independent events, but are often intertwined, and have consequences for short- and long-term life course trajectories. Life course scholars studying the transition to adulthood emphasize the need to re-conceptualize this period from one following a linear or orderly trajectory to one with many divergent pathways conditioned on choices, constraints and unexpected events (Lei & South, 2016; Shanahan, 2000). The duration of and experiences in the transition to adulthood has become increasingly heterogeneous, as many young people now face multiple pathways in parental home leaving, educational attainment, marriage, home-ownership, and parenthood, leading to longer delays in transitioning to full adulthood (Arnett, 2000; Lei & South, 2016). This heterogeneity leads to varying speeds and intensities for socioeconomic attainment and the accrual of resources and debts. As individuals leave the parental home, attend and complete school, get married, and have children, they accumulate education and skills for the work force, as well as financial assets and debts that extend into older adulthood.

The interaction of major life course transitions during the transition to adulthood often signify potentially radical changes in lifestyle and behavior including spending habits, risk taking, financial investment, and health behavior (Lareau & Weininger, 2008; Schulenberg & Maggs, 2002; Zaleski & Schiaffino, 2000). Moreover, the accumulation of advantages and disadvantages affects future opportunities and resources. An examination of status change during the transition to adulthood has revealed large groups of young adults experiencing significant shifts in socioeconomic status (Lui, Chung, Wallace, & Aneshensel, 2014). These significant changes include downward status moves for individuals coming from advantaged parental households and upward status moves for individuals with low income, low educational attainment parents.

Dramatic shifts in neighborhood environment may be a by-product of the dynamism occurring in the transition to adulthood period. Specifically, significant changes in neighborhood quality and poverty likely accompany the dramatic shifts in socioeconomic status documented by Lui and her colleagues and, more broadly, the lifestyle and behavioral changes and accumulation of resources and debt that characterize the period. Of the various triggers of residential mobility examined by the literature, life course transitions are amongst the strongest predictors – in other words, individuals experiencing a life course event often also migrate (Bernard et al., 2014; Clark, 2013; Lee, Oropesa, & Kanan, 1994; Rossi, 1980). Life-course transitions that accompany migration into better neighborhoods may be key signals of upward social mobility or “turning points” that provide individuals with the opportunity to alter their life course trajectories (Elder, 1998; Laub & Sampson, 1993). Alternatively, life course migrations into worse neighborhoods may indicate negative shocks that further entrench individuals in disadvantaged areas. In a study of young adults in the United States, Warner and Sharp (2016) found that certain life course events during young adulthood led to short and long-term residential stability. Individuals entering homeownership experienced immediate long-term residential stability, whereas individuals entering marriage took time to search for their ideal residential environments, which may indicate transitions into and out of different neighborhood environments before settling on a suitable dwelling. Unexpected disruptive events such as divorce and unemployment led to increased instability in both the short and long term, indicating that individuals going through these events may experience dramatic shifts in their neighborhood environments as they attempt to gain a secure foothold on their personal and financial resources (Clark, 2016).

2.2. Life course transitions and neighborhood change

The life course transitions that typically occur during the transition to adulthood can be broadly classified under the categories of human capital, income and household formation. The life course event that typically occurs first is entrance into either the labor market or higher education (Bernard et al., 2014). Individuals moving to attend college immediately after adolescence are often more advantaged than their non-college-going or college-going, but living-at-home peers, even after controlling for high school achievement (Hoxby & Avery, 2013; Mulder & Clark, 2002). Therefore, they are also likely to be living in higher quality neighborhoods with lower poverty rates during adolescence and thus would enter poorer areas. In contrast, individuals working directly after high school rather than pursuing a college degree often come from more socioeconomically disadvantaged neighborhoods; thus, they may be making lateral or upward moves in neighborhood attainment.

Mobility linked to household formation may lead to shorter move distances, particularly for minorities who require family, cultural and peer resources to compensate for socioeconomic disadvantages, and thus to less change in neighborhood environments (Mulder & Cooke,

2009). Because early marriage is associated with lower educational attainment and income (Goldscheider & DaVanzo, 1989), individuals marrying at an early age and moving are likely making lateral or downward moves in neighborhood quality (Oppenheimer, 1988). However, given the higher poverty rates of single than married persons, marriage may be a route out of disadvantaged neighborhoods, especially if both husband and wife are earning an income. Movers are more likely to experience a change in marital status in the year following a move, indicating that moves may be bundled with changes in household composition (Geist and McManus, 2008). Jang and Snyder (2015) found an association between first union formation and moving for young adult females, but not for males. These results suggest that females factor in union formation in their mobility decisions either in moving with a partner or moving in order to expand their marriage markets, whereas males might consider other factors including human capital formation, employment and self-exploration. These differences may lead to vastly different neighborhood environments, with females combining incomes to potentially move into more advantaged areas and males moving laterally or downward to seek job opportunities or explore different neighborhood contexts.

Although first childbearing is associated with mobility (Bernard et al., 2014), children impede residential mobility, perhaps because they increase investment in the neighborhood (South & Crowder, 1997). Yet, when families with children do move, they consider a set of factors, such as school quality and safety, which are highly correlated with lower neighborhood poverty and percent minority (Holme, 2002). These factors vary by race and socioeconomic status. Minority and socioeconomically disadvantaged families may trade off better schools and safer neighborhoods for proximity to social networks for household support and childcare (De Souza Briggs, Ferryman, Popkin, & Rendon, 2008).

2.3. Averages hide dynamism in neighborhood change

The few studies that have examined residential mobility during the transition to adulthood have revealed neighborhood continuity in the outcomes for young adults as they transition from the homes they grew up in to their new locations (Sharkey, 2012; Swisher, Kuhl, & Chavez, 2013). Even individuals who initially make gains in neighborhood outcomes eventually find themselves back in disadvantaged conditions because the neighborhoods they move into were undergoing changes leading toward re-segregation and higher poverty (Sharkey, 2012). Overall, the evidence suggests that the persistence of neighborhood inequality over time transcends any spatial opportunity from moving.

The stories of resilient inequality and neighborhood dynamism are not necessarily incompatible. Resilient inequality may be a story of averages, whereas dynamism captures significant shifts and changes across the neighborhood attainment distribution. In other words, the average minority household may continue to find itself in disadvantaged neighborhoods after moving, but there are households that move from severely disadvantaged to highly advantaged settings and vice versa. Rather than examining changes in average neighborhood outcomes, this paper examines the complete matrix of flows in the residential mobility outcomes of young adults. Specifically, we examine mobility across the full distribution of neighborhood poverty and quality to uncover where there is persistent disadvantage and advantage in residential mobility, and the complexity of and changes between these two states. We show movement across the neighborhood poverty and quality distributions using box plots and transition matrices. A box plot approach exhibits important aspects of the neighborhood poverty and quality distributions that are often ignored, including values at the median and the 90th and 10th percentiles, overlap, and the interquartile range. A transition matrix approach to representing change after residential mobility has several important qualities. It captures the underlying spatial dimension of change as moves across the quintiles are moves to almost certainly different residential contexts as suggested in previous work by Bailey and Livingston (2007) and Clark and Mass (2015). The approach also grows out of previous studies which focused on moves out of poor areas whereas our concern has been to view the whole continuum of changes up and down the socioeconomic scale (Bolt, van Kempen, & vanHam, 2008).

We then hone in on the population of young adults making significant moves up and down the neighborhood poverty and quality distributions. These significant movers represent young adults experiencing meaningful shifts in neighborhood settings. We examine the relationship between significant moves up and down and life course status variables related to human capital, income and household formation. We focus on mobility during the transition to adulthood because it is during this period when individuals undergo significant changes in their life course status, making the possibility of significant moves along the neighborhood quality spectrum more likely.

3. Materials and methods

3.1. Data

The data come from The National Longitudinal Study of Adolescent to Adult Health (Add Health) (Harris, 2013). Add Health follows a nationally representative sample of adolescents enrolled in 7th to 12th grades in 1994–1995. Following an in-home interview at Wave 1, respondents were re-interviewed a year later in 1996 (Wave 2), in 2001–02 when they were aged 18–26 (Wave 3), and again in 2008 when they were aged 24–32 (Wave 4). Wave 2 data were not used in this study because students enrolled in 12th grade in Wave 1 were not interviewed. The major focus of the research is on individuals making residential moves in between waves, which we define as having a geocoded residence that differs from the previous wave. We limited our sample to individuals with valid sampling weights and GPS- or address-based residential matches in all waves, who did not live in college dormitories at either Wave 3 or 4, with relevant life course status variables, who did not have a child at Wave 1, were non-prison detainees, non- active military personnel, and aged 18 years and younger at Wave 1 and 19 years and older at Wave 3. We present analyses for Non-Hispanic whites, Non-Hispanic blacks, and Hispanics separately, with Non-Hispanic Asians excluded due to small sample sizes. These restrictions yielded final analytic samples of 6394 movers from Waves 1 to 3 and 7690 movers from Waves 3 to 4.

3.2. Neighborhood poverty and quality

Census tracts were used to approximate neighborhood boundaries. Data from the 1990 and 2000 census and the 2005–09 American Community Survey were used to capture neighborhood conditions at Wave 1, 3 and 4, respectively. We used the poverty rate and an index of quality to capture neighborhood conditions. The index of quality is the first factor score of a principal components analysis of the following variables: proportion of households that are married with children, median household income adjusted for inflation, proportion of owner-occupied housing units, proportion of households receiving public assistance, proportion of 25+ year olds with a college degree, and the unemployment rate. This index is designed to capture the underlying demographic structure, the level of deprivation, and the socioeconomic status of the tracts. In contrast to poverty, which captures a narrow aspect of the neighborhood environment, this index represents a broad measure of neighborhood quality that taps into the varying resources that residents may draw from to improve their levels of well-being and neighborhood satisfaction (Clark, 2012; Noble et al., 2007).

3.3. Indicators of life course transitions

We measured life course transitions related to household, income

and human capital formation during the transition to adulthood. Because respondents are adolescents at Wave 1, many of the Wave 1 to 3 life course transitions are binary indicators of whether respondents entered a state or not. In other words, all respondents were enrolled in school and not married or cohabiting, fully employed, and homeowners at adolescence. We included indicators of whether a respondent had a child present in the household, got married, and entered a cohabiting relationship. For educational attainment, we categorized individuals into no high school degree (reference), high school degree, attending college and college degree or higher. We also included binary indicators of full time employment status, which we defined as currently working 35 h or more a week, and home ownership. For the Wave 3 to 4 analyses, the life course variables reflect transitions from different starting states. For full time employment, marriage, home ownership, and child present in household, we categorized individuals in the following four categories: (1) Not in status both waves; (2) In status both waves; (3) Exited status by Wave 4; (4) Entered status by Wave 4. For educational attainment we categorized individuals into no change in educational attainment status, completed a high school degree, entered college and still attending, and completed a college degree. We included a binary indicator of whether the respondent entered a cohabiting relationship.

3.4. Analysis

The analysis is carried out in three sections. In the first section, we examined changes in average neighborhood poverty and quality for residential movers from Wave 1 to 3 and Wave 3 to 4. We used box plots to display changes to the distributions of neighborhood poverty and quality across each wave-to-wave transition. The second section consists of a detailed analysis of moves across the distribution. We grouped movers into quintiles of neighborhood poverty and quality, where quintile cutoffs were based on the distribution of all U.S. census tracts on each neighborhood measure and census year. Differences between the distributions of all U.S. census tracts and tracts represented in the Add Health sample are small. For consistency across outcomes, higher quintiles mean better neighborhood conditions, or lower poverty and higher quality. We present matrices of movement across neighborhood quintiles from wave to wave for each race/ethnicity and neighborhood measure.

The final section presents the results from multinomial logistic regression models examining the relationship between life course transitions and significant moves off the matrix diagonals which we define as moves of two or more quintiles. We ran separate models for each race/ethnicity, neighborhood poverty and quality, and Wave 1 to 3 and Wave 3 to 4 transitions. The outcome variable categorizes respondents into three groups: (1) remained in the same quintile or moved up/down 1 quintile (reference group); (2) moved down 2+ poverty quintiles; and (3) moved up 2+ poverty quintiles. Our main independent variables are life course transition variables related to home ownership and household, educational, human capital, and income formation. We controlled for a set of personal and household characteristics measured at Wave I. These variables include: gender, age, lived with both biological parents, foreign-born, either parent on public income assistance, household income, highest parental education (no high school degree, high school degree, college degree or higher), and number of years lived in Wave I residence. We used multiple imputation on 10 multiply imputed datasets to replace missing data on any of the control variables. All models were adjusted for sample weights to account for unequal sampling probabilities and clustering in the primary sampling units at the region, school and classroom levels.

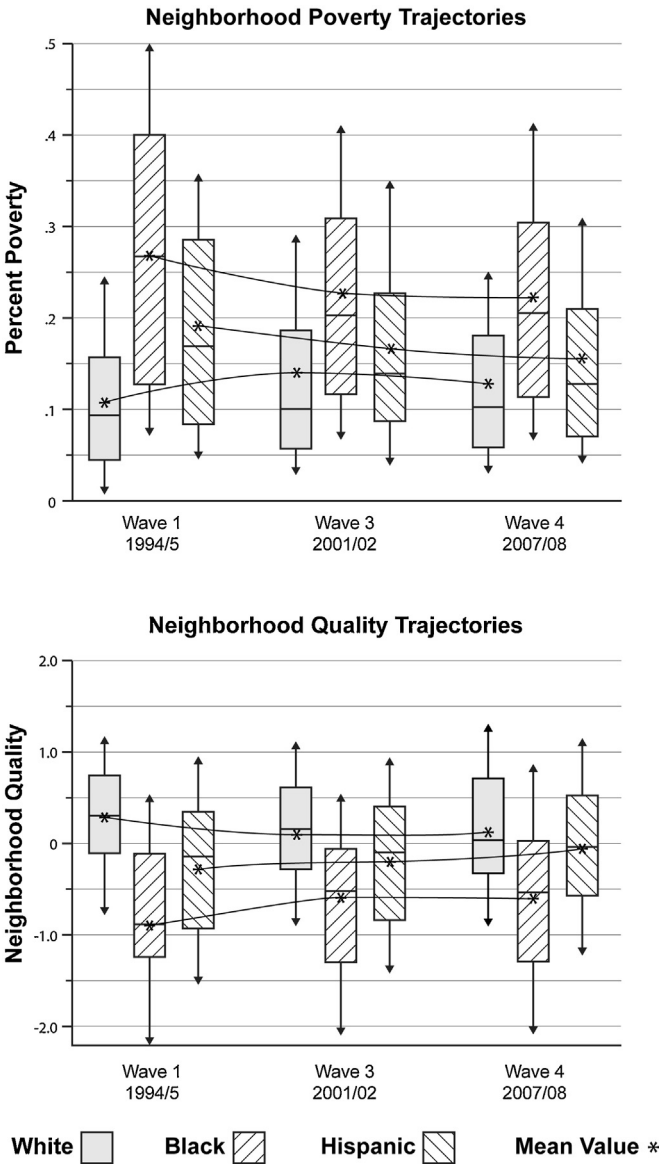

Fig. 1. Boxplots of the distribution of respondents by neighborhood poverty and quality for movers across waves.

4. Results

4.1. Distributional outcomes for movers across neighborhood poverty and quality levels

Previous work has for the most part focused on mean changes in outcomes from mobility. We extend these studies by analyzing the distribution of outcomes, specifically by using box and whisker plots of percent poverty and neighborhood quality for movers (Fig. 1). These plots show the spread, central tendency and structure of a distribution, providing a more complete picture of change in poverty and neighborhood quality from wave to wave. For each box, the middle line represents the median, the top and bottom of the box represent the 75th and 25th percentiles, and the top and bottom arrows represent the 90th and 10th percentiles. We also present averages as represented by the asterisks.

The averages present the familiar story of racial inequality − whites traversed lower poverty and higher quality neighborhoods relative to blacks and Hispanics throughout the transition to adulthood. The averages also support the story of temporary improvement in neighborhood racial inequality for black and Hispanic movers. Whites who

moved experienced an increase in neighborhood poverty from Wave 1 to 3 and then a decrease in neighborhood quality from Wave 3 to 4. Blacks and Hispanics experienced significant improvements in neighborhood conditions from Wave 1 to 3, which continued into Wave 4 but to a lesser degree. Previous studies have shown that this trend reverses into later young adulthood, completing one story of resilient racial inequality (Sharkey, 2012). We, however, do not find this upturn in average poverty levels at least up through ages 24 to 32, though there is a noticeable leveling in neighborhood quality between waves 3 and 4.

The analyses which focus on averages do not capture the important ways that individuals in the distribution of movers change over the three waves in both measures of neighborhood poverty and quality. One way of interpreting the distributional findings is to focus on the interquartile range (IQR), which measures the difference between the 25th and 75th percentiles, which represent the bottom and top of the boxes, respectively. Examining the size of the IQR and its overlap across race/ethnicity provide the level of and change in the range of residential environments over time. White neighborhood poverty as measured by the IQR expanded modestly from wave to wave, revealing a broadening of neighborhood experiences for white young adults. Conversely, the distributions for blacks and Hispanics compressed over time. That is, the distribution of poverty outcomes has decreasing variance, as well as a declining mean. Moreover, the IQRs have greater overlap over time, signifying increasing shared neighborhood experiences with respect to poverty and quality as adolescents leave their parental home. Hispanics, in particular, show considerable improvement, with consistent declines in mean poverty, compressed distributions, and increasing overlap with the distributions for whites.

Another way of interpreting the findings is to examine the extreme ends of the distribution. For black and Hispanic movers, the higher ends of their distributions indicate dynamic change. For example, the 90th percentile in poverty dropped significantly from Wave 1 to 3 for black movers, signaling significant improvement for blacks living in extreme poverty conditions, and then stabilized from Wave 3 to 4. Hispanic movers show the reverse pattern − stability in extreme neighborhood poverty from Wave 1 to 3 and a dramatic decrease from Wave 3 to 4.

As we might expect, because neighborhood quality is a more complex measure of local conditions, the results for this measure are less powerful. That said both black and Hispanic movers make gains in neighborhood quality and the overlap for movers is substantial. White movers had modest declines in neighborhood quality while the gains for black and Hispanic movers are consistent with the findings for poverty outcomes. The overlap of white and Hispanic neighborhood trajectories increases such that by Wave 4 the box plots are notably comparable. In sum, we gain a greater understanding of the range of possible spatial outcomes from mobility by examining the complete range of mobility outcomes. These changes occurring throughout the neighborhood poverty and quality distributions are evidence of a much more fluid situation than is suggested by the focus on averages of neighborhood inequality alone.

4.2. Transition matrices

The box plots provide one method of analyzing the distribution of outcomes and they can be further enriched by examining the matrices of movements across the neighborhood poverty and quality quintiles (Figs. 2 and 3). These matrices highlight the dynamism of young adult transitions. There are three summary findings. First, there are non-trivial percentages of movers who move off the diagonal. Second, while there are differences across white, black and Hispanic movers there is considerable similarity in the dynamics of mobility although blacks have the greatest “stickiness” on the diagonal. Three, significant moves of more than two quintiles occur both up and down the matrix of opportunities.

We found that nearly 75 percent of whites, 68 percent of Hispanics and 57 percent of Blacks move off the diagonal of poverty, in the transition from Wave 1 to 3. Similar numbers apply to the movers for Waves 3 to 4. The results are similar for neighborhood quality moves although there are modestly higher probabilities of staying on the diagonal. However, the basic point of dynamism in the structure of moves holds across waves and for both neighborhood poverty and quality. Respondents in all but two of the quintiles (black lowest poverty quintile and neighborhood quality quintile) have a less than 50% probability of remaining in that quintile after a residential move. What we are capturing is the changes in location as the transition to adulthood occurs. These diagonal conditional row probabilities are two to three times lower than those for older adults and family households (Clark & Rivers, 2012; Clark, 2012), revealing the greater volatility of residential mobility for young adults relative to other age groups.

We also draw attention to similarities in the matrices. Focusing as an example on quintile 3 for the movers between waves 3 and 4 for both neighborhood poverty and quality, the conditional row values for moving within quintile 3 are quite similar across race. Even though there is a slightly greater likelihood of moving and staying in quintile 3 for whites from Wave 3 to 4 the values for Hispanics and blacks are within 5 percentage points. As we noted earlier it is the “stickiness” of the very lowest quintile for blacks that stands out as the variant across the matrices, a finding that is obscured by a reliance on mean changes. The other finding that emerges from the analysis is the difference between white and Hispanic off diagonal moves for the middle quintile compared to blacks. Whites and Hispanics have a greater likelihood of moving up than down compared to blacks. Still, we can say that focusing on movers and their changes across quintiles tells a very different story than a focus on means and extends our findings from the box and whisker diagrams.

The dynamism of young adult transitions is further exemplified by the nontrivial percentages of individuals making significant moves up and down the distributions, which we define as moves of two or more quintiles.[1] A third of whites move out of the lowest quintile of poverty to quintile 3 or higher. Although the proportions of blacks and Hispanics who make this move are lower, the fact that 20 percent of blacks and nearly a third of Hispanics make these changes is a testament to the ability to access the opportunity matrix. Significant improvements in neighborhood conditions occur throughout the distribution as not only are young adults in the very lowest poverty and neighborhood quality quintiles able to significantly move up, but also those in the middle quintiles. Furthermore, there are parallel moves down the hierarchy of poverty (increased poverty) and to lower quality neighborhoods. Being able to maintain position in higher status quintiles, either lower poverty or better quality neighborhoods, is more difficult for black young adults than for whites or Hispanics. This is not a surprising outcome in the context of their lower incomes and less likelihood of completing college.

Overall, 11.21% and 22.06% of whites are making significant moves up and down the neighborhood poverty distribution from Wave 1 to 3, respectively. The percentages are 13.73% and 16.30% for blacks and 14.55% and 18.53 for Hispanics. From Wave 3 to 4, 19.07% and 14.34% of whites are making moves up and down, respectively. The percentages are 22.13% and 12.65% for blacks and 27.00% and 10.66% for Hispanics. The percentages moving up and down the neighborhood quality distribution are similar. In summary, while there is stickiness on the diagonal, that is movement which extends inequality, particularly at the lowest quintiles for blacks, the matrices demonstrate that nontrivial percentages of individuals are making significant jumps up and down the neighborhood poverty and quality distributions and these significant moves represent meaningful changes in neighborhood

[1] We recognize that there is also a story about those who move but stay on the diagonal. Those moves are important but that is not the focus of this portion of the study − our focus is on significant movers, what life course indicators are associated with these moves, and we have controlled for background differences between them and non- significant movers in the multivariate analyses.

Poverty

White

Wave 1 \ Wave 3	1	2	3	4	5	N
1	0.327	0.326	0.141	0.169	0.036	579
2	0.216	0.292	0.231	0.168	0.094	678
3	0.118	0.217	0.320	0.213	0.132	984
4	0.151	0.185	0.219	0.261	0.184	997
5	0.178	0.174	0.176	0.223	0.249	919
	785	926	945	885	616	4,157

Wave 3 \ Wave 4	1	2	3	4	5	N
1	0.201	0.310	0.193	0.179	0.118	828
2	0.131	0.290	0.257	0.179	0.143	1,032
3	0.091	0.232	0.242	0.274	0.161	1,127
4	0.085	0.161	0.236	0.302	0.217	1,137
5	0.067	0.125	0.226	0.295	0.286	862
	533	1,068	1,181	1,299	905	4,986

Black

Wave 1	1	2	3	4	5	N
1	0.575	0.219	0.120	0.061	0.025	669
2	0.419	0.359	0.127	0.060	0.036	200
3	0.342	0.239	0.213	0.136	0.071	170
4	0.316	0.204	0.178	0.258	0.045	165
5	0.312	0.225	0.148	0.129	0.186	78
	607	299	206	118	52	1,282

Wave 3	1	2	3	4	5	N
1	0.492	0.201	0.150	0.111	0.045	713
2	0.441	0.248	0.183	0.066	0.063	349
3	0.329	0.236	0.205	0.155	0.075	249
4	0.247	0.334	0.187	0.083	0.148	172
5	0.131	0.304	0.278	0.091	0.197	58
	559	366	285	191	140	1,541

Hispanic

	1	2	3	4	5	N
1	0.432	0.242	0.201	0.059	0.065	269
2	0.368	0.275	0.212	0.086	0.058	197
3	0.160	0.197	0.395	0.138	0.110	180
4	0.162	0.230	0.235	0.203	0.171	239
5	0.250	0.122	0.058	0.311	0.259	70
	285	230	213	135	92	955

	1	2	3	4	5	N
1	0.361	0.254	0.153	0.127	0.105	378
2	0.196	0.306	0.206	0.211	0.080	275
3	0.127	0.282	0.206	0.202	0.182	239
4	0.055	0.175	0.295	0.282	0.194	158
5	0.098	0.306	0.199	0.235	0.163	113
	203	285	251	255	169	1,163

Fig. 2. Row probabilities of transitions between quintiles of neighborhood poverty, Wave 1 to 3 and Wave 3 to 4.

conditions.

4.3. The importance of life course events in shaping dynamism in young adult residential mobility

The results from the previous section revealed that non-trivial percentages of residential movers of all race/ethnic groups examined are making significant moves up and down the neighborhood poverty and quality distributions during the transition to adulthood. Although some studies have indicated dynamic neighborhood change during this period, none to our knowledge have attempted to explain why change occurs. The following analysis provides a demographic portrait of movers experiencing significant changes in neighborhood quality and poverty. Here, we focus on life course events related to human capital, income, and household formation − job employment, educational attainment, home ownership, marriage, cohabitation, and having a child.

The results from multinomial regression models explaining significant movement up and down neighborhood poverty and quality, from Wave 1 to 3 and Wave 3 to 4 by race/ethnicity are shown in Tables 1 and 2. The coefficients are relative risk ratios and represent the association between a one-unit change in the independent variable and the probability of either significantly moving up or down in

Neighborhood Quality

White

Wave 1 \ Wave 3	1	2	3	4	5	N
1	0.227	0.322	0.160	0.200	0.090	455
2	0.149	0.267	0.206	0.248	0.130	548
3	0.109	0.204	0.181	0.320	0.186	765
4	0.114	0.145	0.198	0.310	0.233	1,257
5	0.156	0.136	0.146	0.233	0.329	1,132
	600	832	727	1046	952	4,157

Wave 3 \ Wave 4	1	2	3	4	5	N
1	0.206	0.228	0.182	0.173	0.211	649
2	0.202	0.228	0.185	0.201	0.184	897
3	0.144	0.223	0.230	0.219	0.185	807
4	0.093	0.151	0.284	0.265	0.207	1,319
5	0.086	0.139	0.191	0.257	0.326	1,314
	599	926	1,090	1,195	1,176	4,986

Black

Wave 1	1	2	3	4	5	N
1	0.487	0.236	0.163	0.074	0.040	667
2	0.463	0.237	0.165	0.089	0.046	200
3	0.288	0.387	0.212	0.073	0.040	142
4	0.302	0.080	0.193	0.307	0.119	125
5	0.391	0.146	0.021	0.175	0.267	148
	531	302	194	151	104	1,282

Wave 3	1	2	3	4	5	N
1	0.520	0.224	0.096	0.103	0.057	625
2	0.384	0.261	0.197	0.046	0.112	346
3	0.384	0.254	0.197	0.089	0.077	234
4	0.382	0.114	0.171	0.147	0.187	198
5	0.200	0.232	0.231	0.084	0.253	138
	609	332	227	185	188	1,541

Hispanic

	1	2	3	4	5	N
1	0.456	0.164	0.200	0.103	0.077	320
2	0.201	0.266	0.261	0.173	0.100	149
3	0.227	0.146	0.178	0.274	0.175	149
4	0.177	0.116	0.157	0.324	0.226	216
5	0.223	0.193	0.150	0.185	0.249	121
	283	182	157	184	149	955

	1	2	3	4	5	N
1	0.296	0.310	0.164	0.098	0.132	348
2	0.162	0.212	0.258	0.180	0.188	224
3	0.152	0.228	0.246	0.249	0.126	185
4	0.107	0.186	0.238	0.216	0.254	233
5	0.137	0.185	0.143	0.266	0.269	173
	200	240	239	251	233	1,163

Fig. 3. Row probabilities of transitions between quintiles of neighborhood quality, Wave 1 to 3 and Wave 3 to 4.

Table 1
Multinomial Logistic Regression Models Examining the Effects of Life Course Transitions on Significant Moves Across the Neighborhood Mobility Matrix from Wave 1 to 3[a].

	Neighborhood poverty						Neighborhood quality					
	White		Black		Hispanic		White		Black		Hispanic	
	Higher Poverty	Lower Poverty	Higher Poverty	Lower Poverty	Higher Poverty	Lower Poverty	Lower Quality	Higher Quality	Lower Quality	Higher Quality	Lower Quality	Higher Quality
Employed full time	0.68*	1.15	0.47*	0.97	1.34	0.53	0.79	1.28	0.54	0.75	2.59	0.66
	(0.11)	(0.24)	(0.16)	(0.39)	(0.69)	(0.26)	(0.14)	(0.20)	(0.20)	(0.23)	(1.65)	(0.26)
Educational attainment [b]												
Completed high school degree	1.13	1.23	1.06	1.80	0.88	2.88	1.09	1.18	0.96	1.81	0.93	1.60
	(0.25)	(0.25)	(0.41)	(0.96)	(0.44)	(1.87)	(0.25)	(0.23)	(0.37)	(0.68)	(0.43)	(0.73)
Entered and still attending college	1.55	1.26	1.26	1.94	3.53	1.90	1.61	1.49	1.23	1.22	4.25*	0.83
	(0.42)	(0.40)	(0.54)	(1.39)	(2.29)	(1.15)	(0.44)	(0.37)	(0.62)	(0.69)	(2.99)	(0.43)
Completed college degree	1.71*	1.82	1.56	2.36	3.42	3.60	1.27	1.76*	1.56	3.29*	2.82	1.80
	(0.44)	(0.55)	(0.95)	(1.57)	(2.62)	(2.73)	(0.37)	(0.46)	(0.94)	(1.86)	(2.08)	(1.14)
Married	0.86	1.05	1.03	1.94*	0.91	1.06	0.84	0.94	1.17	1.43	1.12	1.26
	(0.14)	(0.17)	(0.56)	(0.62)	(0.38)	(0.38)	(0.14)	(0.16)	(0.51)	(0.44)	(0.57)	(0.45)
Entered cohabiting relationship	1.20	1.39	1.34	1.79	1.71	0.68	1.34*	1.38	1.01	1.46	1.75	1.18
	(0.16)	(0.25)	(0.57)	(0.57)	(0.75)	(0.27)	(0.17)	(0.22)	(0.36)	(0.40)	(0.77)	(0.47)
Has child in household	0.89	1.24	1.29	0.79	1.34	1.21	0.78	1.50	1.45	0.74	1.70	1.33
	(0.11)	(0.22)	(0.46)	(0.27)	(0.55)	(0.39)	(0.12)	(0.53)	(0.54)	(0.19)	(0.71)	(0.35)
Owns a home	0.53***	0.89	0.87	1.63	1.10	1.93*	0.44***	0.93	0.52	1.63	0.43	1.32
	(0.08)	(0.14)	(0.36)	(0.77)	(0.59)	(0.51)	(0.07)	(0.16)	(0.26)	(0.68)	(0.20)	(0.39)

All models are weighted to adjust for survey design effects. Models include the following control variables measured at Wave 1: Log household income, age, gender, highest parental education, foreign-born status, a parent on public income assistance, and number of years lived in current neighborhood. Regression coefficients are in relative risk ratios.

[a] Reference group is remained in the same quintile or moved up or down 1 quintile.

[b] Reference group is no high school degree.

neighborhood poverty or quality relative to the probability of moving 1 quintile up/down or staying on the diagonal. We tested models using no quintile change as the reference group and found that the results were largely consistent.[2] The findings are rich interpretations of what we have long believed about young adult progress through the life course more generally. Entering stable relationships, education and human capital, home ownership and jobs are associated with significant moves off the neighborhood poverty or quality diagonals for the initial moves from Waves 1 to 3 (Table 1). Entering a full time job is associated with a decreased risk of moving into a higher poverty neighborhood for whites and blacks. Owning a home is associated with a decreased risk of moving into a higher poverty and lower quality neighborhood for whites, and an increased probability of moving into a lower poverty neighborhood for Hispanics. Marriage is associated with a greater likelihood of moving into a lower poverty neighborhood for blacks. Whereas full time employment, home ownership and marriage are associated with movement upwards in the matrix of opportunity, educational related transitions are mixed. Although earning a college degree is associated with a greater probability of moving into higher quality neighborhoods for whites and blacks, it is associated with a greater risk of moving into a higher poverty neighborhood for whites. The probability of entering a lower quality neighborhood is over 4 times greater for Hispanics attending college relative to those with no high school degree. The relative risk ratios shown in Table 1 are for upward and downward movers relative to those remaining on or moving 1 quintile off the diagonal. Direct comparisons of upward and downward movers provide a similar story. White young adults obtaining full time employment and owning a home are nearly 2 times more likely to make a 2 quintile jump up than a 2 quintile jump down in neighborhood poverty and quality. Hispanic young adults owning a home are 3 times more likely to make a 2 quintile jump up than down in neighborhood quality.

The results for residential mobility from Wave 3 to 4 when respondents were transitioning into later young adulthood have similar but additional useful explanations for explaining significant movement up and down neighborhood poverty and quality (Table 2). We found that home ownership and full time employment continue to either facilitate movement into better neighborhoods or prevent movement into worse neighborhoods. Specifically, remaining a homeowner from Wave 3 to 4 is associated with a lower risk of moving into higher poverty or lower quality neighborhoods for whites. Hispanics exiting home ownership status are 3 times more likely to enter a high poverty neighborhood relative to non homeowners. Entering home ownership status is associated with a greater likelihood of entering a lower poverty neighborhood for blacks. Losing a full time job is associated with a lower likelihood of entering a lower poverty neighborhood for blacks and a higher quality neighborhood for whites. While the Wave 3 to 4 results for home ownership and full time employment repeat the same story from Wave 1 to 3, the relationship between dynamic change and partner formation, educational attainment, and having a child differs. Whereas entering a marital relationship was associated with significant change from Wave 1 to 3, this relationship is no longer true from Wave 3 to 4. Instead, entering a cohabiting relationship is associated with significant change during this later period. For blacks, entering a

[2] Although the finding that partner formation, educational attainment, job employment and home ownership are associated with dynamic moves in neighborhood poverty and quality still remained, results for models using no quintile change as the reference group had a number of notable differences. For Wave 1 to 3, college degree attainment is no longer associated with significant moves up and down for whites but is associated for Hispanics, attending college is associated with an increased risk of moving into higher poverty neighborhoods for Hispanics, and cohabitation is associated with a greater likelihood of moving into lower poverty or higher quality neighborhoods for whites and blacks. For Wave 3 to 4, staying married is associated with a decreased risk of moving into significantly poorer neighborhoods for whites and an increased likelihood of moving into a higher quality neighborhood for Hispanics, entering a cohabiting relationship is no longer associated with dynamic moves for Hispanics, and losing a job and owning a home are no longer significant for whites. What these changes show is that in specific instances the variables can change depending on who is in the reference group.

Table 2
Multinomial Logistic Regression Models Examining the Effects of Life Course Transitions on Significant Moves Across the Neighborhood Mobility Matrix from Wave 3 to 4[a].

	Neighborhood poverty						Neighborhood quality					
	White		Black		Hispanic		White		Black		Hispanic	
	Higher Poverty	Lower Poverty	Higher Poverty	Lower Poverty	Higher Poverty	Lower Poverty	Lower Quality	Higher Quality	Lower Quality	Higher Quality	Lower Quality	Higher Quality
Full-time employment status[b]												
Employed full-time in both waves	0.95	0.91	0.75	0.90	1.13	0.59	0.98	0.75	0.85	0.78	1.29	1.08
	(0.16)	(0.19)	(0.26)	(0.25)	(0.56)	(0.23)	(0.13)	(0.15)	(0.26)	(0.22)	(0.50)	(0.47)
Exited	1.11	0.89	0.74	0.45*	0.99	0.87	0.85	0.62*	0.90	0.68	1.58	1.49
	(0.22)	(0.19)	(0.26)	(0.15)	(0.66)	(0.37)	(0.15)	(0.14)	(0.31)	(0.29)	(0.71)	(0.71)
Entered	1.04	1.02	1.45	1.00	1.51	0.74	1.15	1.04	1.22	1.07	0.89	0.92
	(0.18)	(0.17)	(0.44)	(0.26)	(0.59)	(0.25)	(0.17)	(0.16)	(0.37)	(0.31)	(0.36)	(0.33)
Educational attainment status[c]												
Completed high school degree	0.87	1.08	0.96	0.88	1.24	0.66	0.73	0.73	0.92	1.19	0.66	0.68
	(0.34)	(0.30)	(0.44)	(0.44)	(1.12)	(0.33)	(0.27)	(0.27)	(0.46)	(0.58)	(0.45)	(0.31)
Entered and still attending college	1.08	0.88	0.82	1.44	1.19	0.36	1.36	1.31	1.53	1.41	1.25	0.93
	(0.26)	(0.22)	(0.38)	(0.53)	(0.84)	(0.25)	(0.27)	(0.34)	(0.63)	(0.62)	(0.64)	(0.57)
Completed college degree	0.84	1.69***	1.12	1.85*	0.80	0.82	0.83	1.50***	1.70*	2.48**	0.95	0.90
	(0.15)	(0.25)	(0.37)	(0.53)	(0.38)	(0.31)	(0.12)	(0.18)	(0.45)	(0.75)	(0.37)	(0.30)
Martial status[b]												
Married in both waves	0.66	1.21	0.75	1.04	1.46	1.55	0.76	0.97	0.55	0.84	0.41	2.20
	(0.14)	(0.22)	(0.28)	(0.43)	(1.06)	(0.61)	(0.13)	(0.21)	(0.22)	(0.42)	(0.22)	(0.98)
Exited	0.90	0.86	0.79	0.90	0.51	1.05	0.99	0.68	0.88	0.62	0.93	1.51
	(0.22)	(0.22)	(0.55)	(0.42)	(0.35)	(0.61)	(0.26)	(0.17)	(0.48)	(0.31)	(0.45)	(0.76)
Entered	0.76*	1.23	0.61	1.22	1.34	1.62	0.95	1.05	0.73	1.03	0.92	1.14
	(0.10)	(0.17)	(0.21)	(0.28)	(0.60)	(0.45)	(0.12)	(0.13)	(0.20)	(0.29)	(0.33)	(0.35)
Entered cohabiting relationship	1.17	0.98	1.09	1.79*	2.60*	1.85*	1.18	0.84	1.06	1.29	1.42	1.01
	(0.20)	(0.12)	(0.34)	(0.47)	(1.13)	(0.45)	(0.17)	(0.12)	(0.28)	(0.37)	(0.56)	(0.38)
Home ownership status[b]												
Owned a home in both waves	0.45**	0.77	1.52	1.89	1.42	0.99	0.53**	0.74	0.96	0.58	1.08	0.44
	(0.12)	(0.17)	(0.68)	(0.93)	(0.91)	(0.54)	(0.11)	(0.15)	(0.60)	(0.38)	(0.54)	(0.35)
Exited	0.89	0.80	2.37	0.70	3.47*	1.69	0.91	0.62	1.45	0.46	2.38	1.62
	(0.23)	(0.21)	(1.48)	(0.36)	(1.71)	(0.83)	(0.19)	(0.20)	(0.63)	(0.28)	(1.21)	(0.76)
Entered	0.85	0.91	1.29	1.56*	1.77	1.54	0.81	1.10	0.93	1.25	1.52	2.58***
	(0.11)	(0.10)	(0.38)	(0.31)	(0.73)	(0.44)	(0.09)	(0.14)	(0.22)	(0.27)	(0.53)	(0.68)
Child in household status[b]												
Has child in both waves	1.01	0.99	1.04	0.53**	0.42	0.95	1.17	0.75	0.89	0.91	0.89	0.66
	(0.24)	(0.18)	(0.28)	(0.13)	(0.19)	(0.24)	(0.20)	(0.16)	(0.19)	(0.22)	(0.35)	(0.18)
Exited	1.52	1.12	0.36	0.59	2.28	0.78	1.72	1.32	0.91	2.00	1.90	1.64
	(0.43)	(0.40)	(0.37)	(0.35)	(1.64)	(0.56)	(0.48)	(0.46)	(0.71)	(1.08)	(1.56)	(1.10)
Entered	0.90	0.80	1.04	0.84	0.41*	1.26	0.89	0.82	1.26	1.08	0.76	0.77
	(0.13)	(0.10)	(0.26)	(0.22)	(0.16)	(0.32)	(0.12)	(0.11)	(0.35)	(0.33)	(0.27)	(0.26)

All models are weighted to adjust for survey design effects. Models include the following control variables measured at Wave 1: Log household income, age, gender, highest parental education, foreign-born status, a parent on public income assistance, and number of years lived in current neighborhood. Regression coefficients are in relative risk ratios.

[a] Reference group is remained in the same quintile or moved up or down 1 quintile.

[b] Reference group is not in status in both Waves 3 and 4.

[c] Reference group is no change in educational attainment.

cohabiting relationship is associated with an increased likelihood of moving into a significantly lower poverty neighborhood. For Hispanics, entering a cohabiting relationship is associated with both significant moves up and down neighborhood poverty. Whereas transitions related to educational attainment were mixed for Wave 1 to 3, they are clearly related to movement into more advantaged neighborhoods for Wave 3 to 4. Specifically, whites and blacks earning a college degree are 1.5 to 2.5 times more likely to move into lower poverty and higher quality neighborhoods relative to non high school graduates. We also found that having a child in both Waves 3 and 4 is associated with a lower likelihood of entering a lower poverty neighborhood for blacks and having a child between Wave 3 to 4 is associated with a lower risk of entering a higher poverty neighborhood for Hispanics. In directly comparing the coefficients for significant upward and downward moves, we found that whites completing college, either remaining married or got married, and remaining a homeowner were nearly twice as likely to move into significantly lower poverty neighborhoods than to higher poverty neighborhoods. We also found that the probability of black movers with a child in both waves 3 and 4 entering a lower poverty neighborhood relative to a higher poverty neighborhood is much lower than blacks that remain childless in both waves. Hispanics having a child and remaining married have a greater likelihood of entering higher quality than lower quality neighborhoods.

In summary, we found strong relationships between partner formation, job employment, educational attainment and home ownership and significant upward and downward moves along the neighborhood

socioeconomic distribution. Although some life course events associated with upward social and economic mobility were associated with downward moves specifically attending college and higher educational attainment during the initial period after adolescence, many life course events including buying a home, getting married and obtaining full time employment were associated with significant moves up the residential opportunity matrix.

5. Discussion

This paper makes an important contribution to understanding mobility in the most dynamic period of the life course. It also links this mobility to spatial outcomes in the housing market, where young adults choose to live in their moves from the parental home to independent living. The paper argues that using a distributional analysis, rather than average outcomes, helps us understand the link between life course decisions, the role of resources and how these are mediated by race and ethnicity.

While the residential mobility literature on average outcomes across race and ethnicity provides strong evidence of persistent disadvantage in minority neighborhood attainment outcomes, our results reveal a much greater dynamism and a more complex pattern of residential outcomes. Specifically, we found that a nontrivial percentage of residential movers experienced significant changes in their neighborhood environments between the ages of 18 to 32. The stories of resilient inequality and dynamism are not contradictory; resilient inequality is more entrenched in other periods of the life course, whereas dynamism has a greater presence during the transition to adulthood given the significant demographic changes occurring during this period. It is also possible that selections are changing for the millennial population with more integrative choices than those that occurred in the past. Moreover, the average household may follow the residential pathways perpetuating racial inequality, but by privileging the entire attainment distribution, we highlight the households on the extreme ends of the distribution that experienced dramatic shifts in neighborhood environments.

We acknowledge that many young adults are following neighborhood attainment paths that preserve racial residential inequality. However, we shine light on the individuals making moves to dramatically different neighborhoods, populations that are ignored when focusing solely on averages. In other words, there are individuals who are making upward and downwards moves in neighborhood poverty and quality, and it is important to understand why these moves occur and to use these results to inform policies that help abate persistent spatial inequality. The current study represents a first step in this process. Future studies that dig deeper into the causal mechanisms driving significant changes in neighborhood environments are needed.

Before reviewing the major contributions of our overall findings, we must address a common issue that arises when examining mobility across some set of categories − deciles or quintiles for example, and in our case categories of neighborhood poverty and quality. In the presentation of the box plots where we are interested in the way in which the distribution changes over time, the fact that respondents changed their position in the distribution is in fact the driving force behind the shifts in the overall distribution. However, when we turn to the way in which individual respondents changed their position in the poverty or quality scale we must address the issue of what have been called floor and ceiling effects − often they are not addressed in studies of change. The issue is that a person or household in either the lowest or highest quintile who changes quintile can only move either up (from the lowest quintile) or down (from the highest quintile). In a sense their opportunities are limited by the categories we have created. Additionally, a change across a boundary may well be a small change in actual level of poverty or quality. To overcome this latter limitation, we examined changes across significant levels of poverty and quality − that is we used moves that are at least two quintiles or greater which emphasizes the actual changes in location. This we believe directs attention to the extent of the move and not just whether the move is just above or just below the current position.

We outline other limitations of our data and approach to provide proper context for our findings. First, we focused on residential mobility up to the mid and late 20s, and thus we cannot make claims concerning the trajectory of the neighborhood environments of young adults as they age into older adulthood. Changes in neighborhood environment after residential mobility may plateau or veer downwards, particularly for blacks, as some have suggested (Sharkey, 2012). Second, we examined residential mobility at three time points during the period but not moves in between these time points. Respondents may be experiencing significant movement and life course transitions during the time gap between survey waves. In particular, young adults likely move several times between waves, and thus are traversing different neighborhoods that we cannot capture with the data. Third, we have limited information on the timing of residential mobility and life course transitions and therefore cannot specify the temporal ordering and the causal pathways of these events. Our results indicate that the bundling of life course events whether they are consequences or instigators of residential mobility are associated with dynamic moves in neighborhood poverty and quality.

These limitations aside, our findings extend current research in three ways. First, we showed that considerable movement along the neighborhood attainment distribution occurs during the transition to adulthood, and therefore this period merits a more prominent position in neighborhood attainment research. This study shows that at least between the ages of 18 to 32, non-trivial percentages of individuals are experiencing significant changes in their neighborhood environments, including improvements for minorities, particularly Hispanics. It is also important to note that our study's sample represents the first cohorts of the millennial generation. The dramatic changes in neighborhood environment may reflect shifting norms whereby young adults are open to living in dramatically different environments from their adolescent neighborhoods. More research examining the residential mobility behavior of millennial young adults is needed, particularly for the younger cohorts that are just entering early to mid young adulthood.

Second, we showed that this considerable movement requires an examination of the full distribution and not just the average. Both operationalizations provide different but equally compelling stories of neighborhood change. In this study, we examined changes to the size and overlap of the IQR, different points in the distribution including the top and bottom deciles, and matrices of movement across quintiles. Future studies testing other neighborhood outcomes that are sensitive to the full distribution are needed.

Third, we extended other research that showed that life course events related to human capital, income and household formation shape significant changes in neighborhood environments during the transition to adulthood. We found strong evidence that home ownership either facilitates the movement into more advantaged neighborhoods or prevents the movement into more disadvantaged areas throughout the transition period. We also found evidence that full time employment and marriage after adolescence and college attainment and cohabitation in later young adulthood are important indicators of either staying in or moving into more advantaged neighborhood settings. These results suggest that the bundling of important life course events and residential mobility needs to be considered when examining the locational attainment of young adults. Although research examining the causal pathways linking life course events, residential mobility and neighborhood change during the transition to adulthood is increasing (Clark, 2013; Rabe and Taylor, 2010; Swisher et al., 2013), more studies are needed to unpack the complex relationship between these demographic phenomena.

The study's findings also carry implications for practice and policy. Deconcentrating the poor and improving the neighborhood conditions of minorities and the socioeconomically disadvantaged are primary

concerns of housing officials. Housing policies often implement change by offering housing vouchers to move to neighborhoods with low poverty rates. Studies have revealed that these policies can work, but under narrow conditions. Specifically, individuals must stay in quality neighborhoods long enough for change to occur, which is an obstacle considering that family households often move into neighborhoods already undergoing changes toward segregation and higher poverty or relocate back into disadvantaged neighborhoods due to financial and personal circumstances (Sampson, 2012). This study offers insight into other potential pathways for exacting more permanent change. Results revealed significant movement out of impoverished neighborhoods during the transition to adulthood, a period not only neglected in the academic neighborhood attainment literature, but also in policy, which privileges children and family households. We also showed that important life course events during this period could indicate significant change. As such, policies guiding adolescents and young adults toward certain choices upon facing important life course decisions during the transition to adulthood, such as gainful employment after high school, home ownership in later young adulthood, and post secondary schooling, may help adolescents not only avoid jumping into more disadvantaged neighborhoods, but also leave the impoverished conditions they grew up in. Interventions earlier in the life course that are sensitive to the packaging of residential mobility and human capital, income and household formation are especially important considering previous evidence showing that minorities making improvements in neighborhood environments in early adulthood may eventually find themselves in neighborhoods undergoing unselected change in later adulthood.

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