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ORIGINAL RESEARCH

Who Goes to College, Military, Prison, or Long-Term Unemployment? Racialized School-to-Labor Market Transitions Among American Men

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Abstract

This paper analyzes the selection processes behind post-schooling transitions into college enrollment, military service, long-term unemployment, and incarceration relative to civilian employment, examining to what extent these processes are racialized. Rather than analyzing a complete set of alternatives, previous research typically focuses on a limited set of these alternatives at a time, and rarely accounts for incarceration or long-term unemployment. Using individual-level panel data on the first post-high school transition from the National Longitudinal Survey of Youth 1997 Cohort, results show that white men experience positive transitions (college enrollment and military service) at higher rates and for longer periods than black men, who experience negative transitions (long-term unemployment and incarceration) at higher rates for longer periods than whites. Competing risk Cox regression analyses reveal that blacks' transitions are polarized, showing that blacks in the upper distributions of standardized test scores and socioeconomic status are more likely to pursue a college education relative to their white counterparts, whereas blacks in the bottom of the standardized test score and socioeconomic status distribution are more likely to experience negative transitions than whites. Unlike prior research finding that military service provided "bridging careers" for racial minorities, black men are no longer more likely to join the military than whites. Instead, blacks now face a much higher risk of incarceration. Implications for intra-generational mobility and changing opportunity structures for racial minorities are discussed.

Keywords Military service · Incarceration · Long-term unemployment · Racial inequality · Life course · First life transition

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Introduction

Military service has been a major activity for many young black men and whites from working-class families, in their transition to adulthood, serving as an alternative to the civilian labor market (Mare and Winship 1984; Teachman 2007a, b). The military has long provided training, stable employment, income, and opportunities for post-service college education for the disadvantaged, serving as a bridging experience between high school and civilian work (Browning et al. 1973; Mangum and Ball 1987; Phillips et al. 1992). Because of its less discriminatory environment (Lundquist 2008), many racial minorities who otherwise would encounter greater racial discrimination in the civilian labor market have joined the military (Armor and Gilroy 2010).

An increasing number of young black men, however, now face negative life outcomes in the form of incarceration. Imprisonment rates have skyrocketed since the early 1980s, resulting in incarceration becoming another prominent life event for many young black men. As the size of the prison population has increased, Pettit and Western (2004, p. 156) note that the prison has emerged as a "major institutional competitor to the military and the educational system, at least for young black men with little schooling." Added to this, long-term joblessness, unemployment, and insecure underemployment, especially in inner cities, have prevailed in the contemporary economy (Newman 1999; Wilson 1987). As a consequence, many young black men are at risk of long-term unemployment as an additional negative transition out of school.

Labor market research reveals that these initial transitions may generate differing labor market outcomes and trajectories: minority veterans garner better earnings in the civilian labor market than minority nonveterans (Angrist 1988) while ex-inmates and the long-term unemployed encounter bleak employment opportunities and severe earnings penalties (Gangl 2006; Western 2002). These stratified outcomes suggest that the racialized selection into different post-high school transitions may be a major source of racial inequality in the labor market. As a decreasing number of blacks join the military, and an increasing number of black men experience incarceration and long-term unemployment, initial transitions may be helping to channel black men away from positive work trajectories (Armor and Gilroy 2010; Gupta and Lundquist 2013; Han 2017; Kosanovich and Sherman 2015; Pettit and Western 2004). But the effects of initial transition experiences on subsequent labor market outcomes are not completely deterministic. For example, some young adults with criminal records have gone on to successfully serve in the military (Lundquist et al. 2018). Conversely, some veterans have also become incarcerated (U.S. Bureau of Justice Statistics 2007). Nonetheless, the relatively lasting effects of these institutional affiliations on subsequent labor market status suggest that the initial transition out of school may strongly influence quality of later life and one's long-term labor force trajectory (Shanahan 2000). In this paper, I seek to answer the following questions: (1) To what extent do millennial youth experience the major life transitions into college, military service, employment, long-term unemployment, and incarceration

upon completion of secondary schooling? (2) How and why are blacks and whites selected into different initial transitions? (3) Do black young men continue to leverage military service as a bridging career, or has military service been overshadowed by incarceration and long-term unemployment?

Previous literature typically examines a limited subset of the aforementioned transitions, for example either entering college or military service, versus labor force participation including unemployment and/or idleness (e.g. Elder et al. 2010; Kleykamp 2006) or joblessness-to-incarceration transitions (and vice versa) (e.g. Crutchfield and Pitchford 1997; Western and Beckett 1999). As incarceration and long-term unemployment become prevailing life events for many young men, it is necessary to understand transitions that millennial youth potentially face in a more comprehensive way. This study analyzes the selection processes for black and white youth into all of the major alternative school-to-work transitions. In brief, my results from nationally representative sample data, the National Longitudinal Survey of Youth (NSLY) 1997, show that whereas black Americans used to enlist in the military at higher rates than whites, this differential has now disappeared. At the same time, black Americans today face a higher risk of incarceration relative to the figures reported in Pettit and Western (2004) from previous generations.

Background

Competing Post-school Alternatives

Contemporary young men[1] have a relatively small number of alternative options in their school-to-work transitions. Sutton (2000, p. 356), for example, points out that "young men in modern societies face a limited set of broad life-course alternatives: if they are not in prison, they are likely to be in school, at work, or in the military," suggesting that being in the three latter institutions reduces the risk of criminal involvement. Only a few studies, however, consider these alternatives as competing transitions. Elder et al. (2010), for example, examine the pathways to military service relative to college education and employment. Kleykamp (2006) analyzes an expanded set of competing transitions by additionally examining idling/unemployment. However, incarceration that many young black men experience is not examined in either study. In addition, the transition to long-term unemployment is not captured in these studies: unemployment is either treated as labor force participation (Elder et al. 2010) or observed once only at the time of survey (Kleykamp 2006). On the other hand, incarceration transition has typically been examined in relation to employment or unemployment but not with military service or college education (e.g. Crutchfield and Pitchford 1997; Western and Beckett 1999). The few empirical

[1] For several reasons, I limit the study to young men. First, males disproportionately experience military service and incarceration, and the sample sizes for women are too small to analyze in these data. Second, there are different types of life events concerning labor market processes, such as motherhood for women, which are beyond the scope of this study, but deserve an analysis in their own right.

studies (e.g., Gupta and Lundquist 2013) that incorporate both military service and incarceration focus mostly on aggregate-level consequences of a disproportionate institutional affiliation of blacks.

The selective comparison of limited alternatives may occur because the demographics of youth who experience some transitions are assumed to be so different, especially given the educational requirements for college enrollment and military enlistment. However, about 90% of military recruits from 2000 onward had a high school diploma but no college degree (U.S. Department of Defense 2000), while 56% of black and 72% of white male inmates in state prisons ages 20–39 also had a high school diploma (U.S. Bureau of Justice Statistics 2003). In addition, about 20% of enlisted recruits in the military were given moral waivers to allow those criminally charged to serve (Boucai 2007). Even among the felony waivers, 72% were high school graduates but had no college education (Lundquist et al. 2018). Thus, high school graduates are potentially exposed to the risks of either incarceration or military service.

Thus, there is no clear picture as to what extent young men experience each of these post-school transitions relative to others. Although the cumulative risks of other critical life events, such as getting a bachelor's degree, military service, and incarceration, are often accurately measured (e.g. Pettit and Western 2004), the risks, nonetheless, are not measured in relation to one another or in cumulative order, failing to capture relative risks of the life events. This study extends the previous research by: (1) examining the competing risks of an expanded set of alternative transitions including incarceration for a newer generation of youths born between 1980–1984; (2) examining the first transition instead of cumulative experiences in these institutional statuses; (3) disaggregating nonemployment labor market statuses into long-term unemployment and short-term idleness/unemployment, and; (4) capturing full-time college enrollment instead of college completion. Enrollment is used because completion may underestimate youth in the college-bound pathway by not counting those who do not complete college education.

Stratified Consequences of Initial Transition Experiences

The positive and negative effects of initial transitions can be long lasting and dramatic. Economic returns to college education, relative to high school graduates, began to increase in the 1960s and have steeply increased since the 1980s (Autor et al. 2008). A college graduate male worker, for example, earns on average $1.1 million total more than a high school graduate without a college degree over 40 years of work life (Hout 2012). The military has been shown to provide a "bridging environment" to service members from disadvantaged groups, including racial minorities. Angrist (1988), for example, found that military service in the All-Volunteer Force (AVF) era increased civilian earnings of non-white veterans while decreasing civilian earnings of white veterans who served in the early 1980 s, suggesting that military service is a positive institutional influence, at least for racial minorities.[2]

[2] As MacLean and Elder (2007) document, the effects of military service are different across racial groups, depending on the timing of service in one's life, exposure to war, and time of service, whether

Long-term unemployment, on the other hand, produces serious negative career effects. As unemployed workers fail to find a job, and the longer they remain jobless their chances of getting a job plummet (Ghayad and Dickens 2012; Jackman and Layard 1991).[3] For example, in the U.S. labor market between 1976 and 2007, re-employment probability decreases rapidly to 30% after 2 months of unemployment and to about 20% after 6 months (Shimer 2008). It is not surprising that the effect of incarceration is detrimental, when combining the effects of unemployment during the incarcerated phase together with the stigma of a criminal background. As such, ex-inmates often face bleak employment opportunities and are likely to be channeled into the secondary labor market even if they find a job (Pager 2009; Western 2002, 2007).

Because the aforementioned statuses are strongly stratified and associated with subsequent labor market outcomes, this study focuses particularly on the first post-high school transition. The first transition is important in and of itself, but also because it influences the likelihood of subsequent transitions. Military service, for example, provides chances to knife-off delinquent pasts (Sampson and Laub 1996) and increases desistance of crime among racial minorities in particular (Bouffard 2005; Craig and Connell 2015), which in turn reduces the risk of incarceration. Military service also provides stepping-stones for future college education through educational support like the G.I. Bill (Kleykamp 2006). Subsequent transitions after the initial post-high school transition merit significant research that should examine the timing and sequencing of life events and labor market trajectories, but such a study is beyond the scope of the current paper.

Racialized Transitions

Unequal consequences suggest that post-high school transitions can be ordered from more positive to negative: college education, military service, civilian employment [the reference category in the current research], long-term unemployment, and incarceration. Thus, if whites are systemically channeled into more positive transitions and blacks into negative ones, racialized selection processes may reinforce cumulative advantage for whites and disadvantage for blacks.

Due to differences in the education and socioeconomic status for blacks and whites, whites experience positive transitions at higher rates than blacks. However,

Footnote 2 (continued)

the Vietnam War, peacetime draft, or AVF eras. For instance, it has been found that the employment probability of veterans for entry-level jobs varies depending on the type of job held in the military and whether its skills are transferable to the civilian labor market, rather than on race of veterans (Kleykamp 2009). See also Phillips et al. (1992).

[3] Since being unemployed means staying in the labor market while seeking a job, the selection into long-term unemployment is not a choice but a forced consequence of failure to secure a job. Thus, it may be argued that, unlike military service and higher education, long-term unemployment cannot be considered an institution. However, even the military is considered to be a best-available alternative to others, and the least-preferred experience of incarceration is a forced consequence.

some research suggests that net of background differences, blacks are more likely to choose positive transitions than whites. Although college enrollment rates are higher for whites than for blacks, blacks are more likely to go to college when other conditions are controlled for (Bennett and Xie 2003). For example, blacks are more likely to enroll in 4-year colleges than whites, net of estimated costs/benefits of college education and school achievement (Perna 2000), and net of socioeconomic class level (Merolla and Jackson 2014).

Blacks joined the military at far higher rates than whites in the early post-draft era, and served for a longer period. Black representation in the U.S. military among both nonprior service accessions and the total active-duty enlisted force rapidly increased with the advent of AVF and blacks have constituted a higher proportion of the military than the civilian population (Armor and Gilroy 2010). Such an overrepresentation of blacks is attributed to blacks' higher propensity[4] than whites for military service (Armor and Gilroy 2010), presumably because blacks have fewer alternative educational or job opportunities than whites and/or because the military is perceived as a more meritocratic and less discriminatory institution than the civilian labor market (Kleykamp 2006; Lundquist 2008).

Such findings suggest that blacks use college education and military service to over-credentialize in order to compete with less qualified whites. Mare and Winship (1984), for example, found that relatively more qualified blacks went to college and joined the military, while those who remained in the civilian labor market were more vulnerable to poor outcomes, resulting in sustained black–white employment gaps despite the increasing education level of blacks between the 1970s and the early 1980s. Thus, past research suggests that after accounting for divergent socioeconomic backgrounds, black youth may be more likely to pursue positive transitions (college enrollment and military enlistment) after high school than white youth.

However, more recent studies indicate that blacks no longer join the military at higher rates, but rather at similar rates to whites. Instead, these studies find that socioeconomic status influences the probability of military service and that youth from lower socioeconomic status are more likely to join the military (Kleykamp 2006; Lutz 2008), suggesting that military service may be an opportunity for the socioeconomically disadvantaged regardless of race.

Youth from lower socioeconomic status, especially racial minorities from poorer backgrounds, are also at high risk of negative transitions. In particular, criminal involvement is prevalent because of family disruption and living in high-crime neighborhoods (Hagan and McCarthy 1997; Sampson and Wilson 1995), in addition to police surveillance in poor communities of color (Goffman 2009). The risk of actual incarceration for blacks may decrease with higher socioeconomic status and standardized test scores. Nonetheless, because of high rates of incarceration among black men all black men are often perceived as potential criminals by employers (Holzer et al. 2003; Pager 2009). As a consequence, black ex-inmates have not

[4] Propensity is measured in nationally representative sample surveys as the percentage of youths willing to enlist.

always experienced additional penalty of incarceration compared to other blacks in the labor market (Pettit and Lyons 2007; Western 2007). Taken together, research also suggests black young people may experience more negative post-school transitions than white young people.

Hypotheses

In sum, blacks in the upper rung of the distributions would choose better credentializing pathways. For example, blacks who have skill levels and qualifications similar to whites might prefer more desirable alternatives such as college education or military service over the civilian labor market. However, if blacks do not choose to or cannot pursue positive transitions through institutional membership in college education or the military, they will inevitably encounter higher risk than whites in incarceration and long-term unemployment rather than finding employment in the civilian labor market. Thus, I hypothesize that first transitions out of high school for blacks relative to whites will be polarized: college enrollment and military service vs. long-term unemployment and incarceration. Standardized test scores and socioeconomic conditions should alter the risks of the negative pathways significantly but to a limited degree due to employer discriminations against blacks, often from perceived criminality of blacks, and more punitive practices of law enforcement for blacks.

H1 Blacks will enroll in college and join the military at higher rates than whites net of standardized test scores and socioeconomic status.

H2 Blacks will experience long-term unemployment and incarceration at higher rates than whites net of standardized test scores and socioeconomic status.

Data and Methods

This study analyzes the National Longitudinal Survey of Youth (NLSY) 1997 cohort data. NLSY97 data are from a nationally representative sample of a 5-year-window cohort with the age range of 12–16 at the end of 1996. The sampling weight-adjusted population from these data closely resembles population characteristics of that cohort.[5] The age range of the sample in the latest (14th) round is 25–29 years.[6] Although included in the original sample, Hispanics, Asians, and Native Americans are excluded in this analysis to focus on black–white differences. All the analyses

[5] After three years, in 2000, the census estimate of the sum of male non-Hispanic whites and African-American men between the ages of 15 and 19 is 8,151,427, close to the weighted population of the same groups in the NLSY97 sample, 8,113,858.

[6] Data from the 15th round were recently released, but are not included in this analysis.

are adjusted by custom sampling weights provided by the survey administration and calculated based on attrition over years and original sampling weights.[7]

Dependent Variable

The dependent variable is the initial post-school transition that a respondent experienced after turning age sixteen among the five major alternatives: college enrollment, military service, long-term unemployment, and incarceration, with the remaining in the civilian labor market[8] as the omitted reference state. Coefficients in the model, then, refer to competing probabilities of experiencing an alternative first transition *relative to* directly entering the civilian labor market. Employment state variables (unemployment and military service) were originally measured weekly in the NLSY97. I transform the weekly state into a monthly measure in order to match the time interval with the other measures used in the analysis. In order to avoid underestimating alternative transitions relative to employment in the civilian labor market (reference transition), monthly states are coded for alternative transitions when monthly states overlap. If a subject is unemployed for three weeks or more in a month, the person-month state is coded as unemployed for the calendar month.

Long-term unemployment is defined as being unemployed for six months consecutively. Unemployment is a state where one cannot find a job while actively seeking employment, which is different from not working. People who are unemployed while enrolled full-time in college are coded as being enrolled in college, rather than as unemployed. Military service denotes only active duty and it is excluded from other employment states and coded separately. Thus, if a subject is coded as serving in the military for the calendar month, this subject is not coded as being employed but rather as in military service. College enrollment and incarceration states are measured monthly. College enrollment is coded only for those enrolled full-time in two-year and four-year colleges in order to measure exclusively how the current status as a college student differs from a worker pursuing higher education part-time.[9] Given the rise in working while enrolled, future research might fruitfully explore more nuanced definitions of post-school states.

Independent Variables

Education is measured using a dummy variable for high school dropouts and those who earned a high school diploma via GED. Here, I treat GED as equivalent to high school dropouts following the literature finding that the effects of a GED are

[7] Sampling weights can be retrieved from https://www.nlsinfo.org/weights/nlsy97.

[8] I define this in contrast to long-term unemployment, as either being employed or looking for a job while being unemployed for a short period (less than 6 consecutive months).

[9] In the analysis, those who enrolled in a two-/four-year college for more than three consecutive months are coded as college enrollment. Considering Weiss and Roksa's (2016) finding that an increasing number of college students work while attending college, the delineation of full-time students from part-time students is important to clearly define the reference state of being in the civilian labor market.

indistinguishable from dropping out of high school in terms of labor market outcomes (Cameron and Heckman 1993; Jepsen et al. 2012).[10] More importantly, the average age of test takers is around 26 (GED Testing Service 2012), which suggests that the competing alternatives measured in the dependent variable are likely to have occurred prior to earning a high school diploma via GED. Because the college-bound transition is included in the model as one of the competing alternatives, college degree is not used as an independent variable.

In addition to the level of formal education, a standardized Armed Forces Qualification Test (AFQT) percentile score is used as a rough proxy for academic achievement. Previous researchers have variably characterized the AFQT as a measure of cognitive ability, but it likely reflects some combination of innate ability and learned achievement (Cordero-Guzmán 2001; Rodgers and Spriggs 1996).[11] The survey administration created a standardized measure equivalent to AFQT from the original Armed Services Vocational Aptitude Battery (ASVAB) test. This variable is missing for about 20% of the sample who did not take the exam. All the missing values for the AFTQ score and for the other variables are imputed using multiple imputation based on covariates.[12]

Socioeconomic status is measured in three ways. Years of parent's education is calculated as a mean of both parents' education years.[13] In addition, log household income in current 1997 dollars is included. Because the household income question was skipped until respondents turned age 16, the first reported household income since the first round of the survey is used and adjusted using the consumer price index of the U.S. Bureau Labor Statistics. A dummy variable is also created for living with a single parent in 1997.

[10] Cameron and Heckman (1993) find that the observed higher earnings of GED holders than of high school dropouts come from their vocational trainings or work experiences after leaving high school earlier rather than from the GED itself. Jepsen et al. (2012) also find that GED has no significant effect on employment and earnings, while it only slightly increases post-secondary education by 4% for male and 8% for female. More importantly, GED is not considered equivalent to high school diplomas in the enlistment application process.

[11] It is necessary to note that there are considerable debates on the validity of AFQT scores. For example, Cordero-Guzmán (2001) argues that AFQT is influenced by cultural exposure to the white upper middle class, material resources, etc. On the contrary, Rodgers and Spriggs (1996) insist that AFTQ scores are a racially unbiased predictor of wage. Despite such debates, I use the standardized measure of AFQT rather than school grades since grading standards/expectations likely vary by schools.

[12] Because it is technically difficult to run a Cox regression with values from multiple imputation and to adjust for sampling weight at the same time, although one at a time is possible, the mean values of ten times of imputation based on other covariates is imputed and a Cox regression is separately run. Covariates used for multiple imputations are race, educational attainment, AFQT score percentile, parent composition, log-household income, parents' mean year of education, and regions. Random component is present in multiple imputations but restricted between maximum and minimum of the nonmissing values.

[13] Erola et al. (2016) find that the combination of father's and mother's education levels better explain children's occupational outcomes than either one alone, indicating that father's and mother's independent effects on children's mobility are small and differ during the different life-course stages of the children. For respondents with only one parent's education reported, father's and mother's education years are separately imputed using multiple imputation before calculating the mean between the imputed and reported values.

Region and urban controls are also included. First, whether an individual lived in an MSA (Metropolitan Statistical Area) in 1997 is dummy coded. Second, based on the omitted category of Northeast, three other regions (South, West, and Northcentral) are coded as dummy variables.

Analytic Strategy

This study analyzes the risks of these competing initial transition alternatives and how the processes leading into them are racialized. To estimate the risks, a Cox regression competing risk model is used to model the four major life events as competing risks for a first transition out of high school other than successfully entering the civilian labor market. In other words, this model assumes whichever event an individual experiences first prevents the other events from simultaneously occurring. In the competing risk model, only the first event that an individual experienced is coded, even if multiple events were eventually experienced. Thus, first events are mutually exclusive. For example, one may hypothetically experience long-term unemployment, join the military afterward, and then become incarcerated after military service. In this case, only the long-term unemployment is coded in the competing risk model. I model them as competing events since the first event prohibits other events from occurring within a short period of time and influences the probability of subsequent events. The omitted reference state is being in the labor force as either being employed or looking for a job during short-term unemployment. However, when the duration of unemployment exceeds six consecutive months, this person is coded as experiencing one of the other major transition outcomes, long-term unemployment. Since the main goal of this study is to examine relationships among and selection processes into the major alternative transitions, types of employment (full-time/part-time) or job characteristics are not specified. The competing risk model can be specified as follows:

$$\mathrm{hk(t|x)} = \lim_{\Delta \to 0} \frac{\Pr[t \le T < t + \Delta t] | T \ge t, X}{\Delta t} = \frac{f(t)}{S(t)}$$

where k denotes the kinds of events: k = 1 for college enrollment; k = 2 for military service; k = 3 for long-term unemployment; and k = 4 for incarceration. It estimates the risks of experiencing Kth event at time T, conditional on having survived to T (remaining in the labor market without experiencing any of the competing events). Thus, it is equivalent to the probability of Kth event occurring between time t and t+Δt. Its density function of failure (occurrence of event) is divided by the survival function.

The Cox proportional hazard model is semi-parametric in that it allows the baseline hazard to have any function of time *t*. That is, this model lets each time point have its own baseline hazard. Thus, it does not need to specify the distribution of whether the hazard increases, holds constant, or decreases over time because the model allows the baseline hazard to be changing over time. In other words, substantively, the Cox regression model has strength when the distributions of hazard

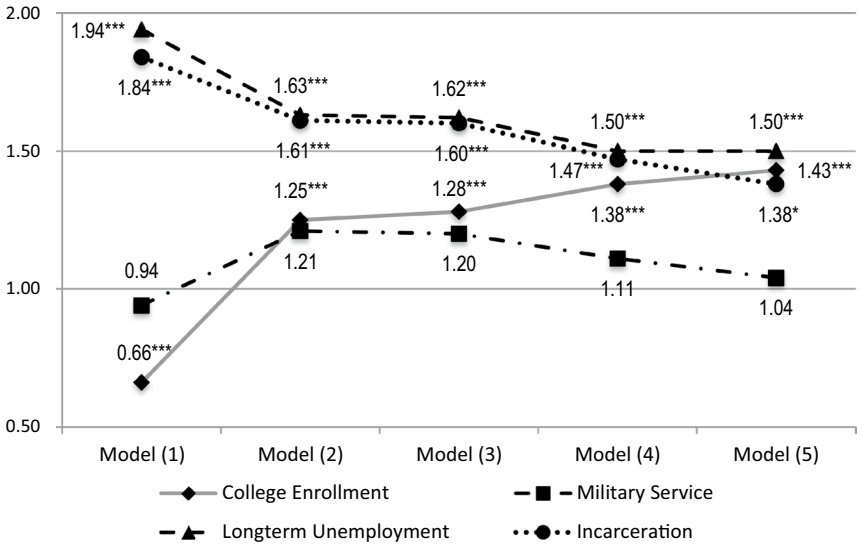
Table 1 List of variables, descriptive statistics (adjusted for sampling weights)

Variable	Total Mean (SE)	White Mean (SE)	Black Mean (SE)
Competing life transitions (dummies)			
Employment (reference)	.23	.24	.19
College enrollment	.43	.47	.27
Military service	.06	.06	.06
Long-term unemployment	.20	.17	.35
Incarceration	.08	.06	.13
Race (dummies)			
Black (reference: white)	.19	–	–
Education level (dummy)			
Less than high school & GED (reference: high school graduates)	.24	.22	.37
Academic Achievement Test Standardized AFQT score percentile	49.46(.50)	55.67(.57)	26.90(.70)
Parents' socioeconomic status			
Parent's education years	13.16(.04)	13.38(.05)	12.23(.06)
Log household income (in 1997 $)	10.57(.02)	10.72(.02)	9.95(.04)
Parents composition (dummy)			
Single parent/relative/adoptee	.32	.25	.60
Region (dummies)			
MSA (reference: non-MSA)	.78	.77	.83
Northcentral	.30	.32	.18
South	.35	.29	.61
West (reference: northeast)	.16	.18	.07
Number of subjects Weighted person-years	3,455 8,113,858	2,286 6,591,631	1,169 1,522,227

for college enrollment, military service, long-term unemployment, and incarceration may change as respondents age. The Cox regression model can be specified as follows:

$$\log\left(\frac{\mathrm{hi(t)}}{\mathrm{h0(t)}}\right) = \beta_1 \mathrm{X_{1i}} + \beta_2 \mathrm{X_{2i}} + \cdots + \beta_k \mathrm{X_{ki}}$$

Thus, the coefficients of independent variables on the right side of the regression equation can be interpreted as the effect of a one unit change in the independent variables on the log of the hazard ratio, log $(h_i(t)/h_0(t))$. The exponential of the coefficients is the effect on the hazard ratio, $h_i(t)/h_0(t)$. For example, if x_1 = black (dummy), the exponential of β_1 should be interpreted as blacks' hazard ratio of experiencing a life event relative to whites (reference category) if they have survived to the time point.



*** p<0.01, ** p<0.05, * p<0.1
Two-tailed test

Note:
Model (1)=Race + Less than High School or GED + MSA/Regions
Model (2)=Model (1) + AFQT Percentile
Model (3)=Model (2) + Parent's Mean Years of Education
Model (4)=Model (3) + Log Household Income (in 1997$)
Model (5)=Model (4) + Not Living with Both Parents in 1997

Fig. 1 Black's hazard ratios of college enrollment, military service, long-term unemployment, and incarceration in different models relative to whites (sampling weight adjusted). $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$. Two-tailed test. Model (1) = race + less than high school or GED + MSA/regions. Model (2) = Model (1) + AFQT percentile. Model (3) = Model (2) + parent's mean years of education. Model (4) = Model (3) + log household income (in 1997$). Model (5) = Model (4) + not living with both parents in 1997

Hazard ratios for blacks presented here are proportional relative to whites. Because whites' baseline hazard cannot be assumed constant over time, it is difficult to interpret hazard ratios in a practical and substantive way. Alternatively, predicted probabilities provide a better understanding of the extent to which a person faces each transition. Because post-estimation available with Cox regression is a relative risk ratio, the predicted probabilities are calculated instead from logistic regressions predicting the first transitions by exponentiating the coefficients for relative risk.[14] This transformation creates metrics that are much easier to interpret. A predicted

[14] Because a competing risk Cox regression estimates the risk of the first transition while treating observations of other transitions as censored, logistic regression of each first transition is used to calculate its predicted probability.

probability of 1.0 (100%) means that the "target" transition is likely to happen for sure and 0.0 (0%) means that it is never likely to happen conditional on covariates.

Predicted probabilities are also useful because they vary at specific values of covariates in the model, and these can be manipulated to isolate the effects of each covariate, holding the value of other predictors constant. To examine how the different distributions of standardized test scores and socioeconomic status across race influence the predicted probabilities of positive and negative transitions, two different sets of values on covariates are defined: one at the mean values for each race, and another at overall means across race. The first prediction assumes that the effects of covariates can be different for blacks and for whites, while the second produces a counterfactual world in which the effects are assumed to be equivalent. In addition, beyond the first transition, to what extent and how long young men experience each life event cumulatively are examined.

Results

Racialized Transitions

The alternative initial transitions are clearly racialized in that whites experience positive transitions (college enrollment and military service) at higher rates than blacks, whereas blacks experience negative transitions (unemployment and incarceration) at higher rates than whites. Table 1 presents descriptive statistics of variables showing that 47% of whites enrolled in college whereas only 27% of blacks did so. About 35% of blacks experienced long-term unemployment compared to 17% of whites. Six percent of whites experienced incarceration earlier than other events, while 13% of blacks did. On the other hand, 6% of both blacks and whites joined the military.

Polarized Transitions for Blacks

Differences in standardized test scores and socioeconomic status between blacks and whites potentially explain the observed channeling of blacks into negative transitions

Table 2 Predicted probabilities (%) of first transition a white and a black young man encounter after age sixteen estimated with covariates at means for each race and at overall means across races based on model (5)

	At means for each race		At overall means across race	
	White	Black	White	Black
College enrollment	45.8	25.3***	41.5	44.8*
Military service	5.5	5.0	5.7	4.4
Long-term unemployment	20.0	39.8***	22.2	28.9***
Incarceration	6.3	12.0***	7.1	8.0

Asterisks indicate that difference between whites and blacks is statistically significant. Two-tailed test

*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

relative to whites and of whites into positive transitions. In order to examine how each of the variables mediates blacks' hazard ratios of the competing alternatives, AFQT scores and the measures of socioeconomic status are additively controlled starting from a baseline model (1). In the baseline model (1), race and basic covariates (dropping out of high school, MSA, and regions) are controlled. In model (2), AFQT score percentile is added. In model (3), parents' mean years of education are additionally controlled. In model (4), log household income is also controlled. In the last model (5), whether living with both parents or not in 1997 is controlled.

Figure 1 summarizes blacks' hazard ratios of college enrollment, military service, long-term unemployment, and incarceration from five models. Similar to an odds ratio, values larger than 1 should be interpreted as a higher risk of competing transitions relative to whites conditional on covariates in each model. Likewise, less than 1 indicates lower risk for blacks relative to whites. Full tables of hazard ratios in each model for each competing transition are provided in the appendix: with college enrollment in Table 4; military service in Table 5; long-term unemployment in Table 6; and incarceration in Table 7.

Hazard ratios in model (1) show that young black men's transitions are clustered into negative ones because blacks are likely to experience negative transitions at higher rates but positive transitions at lower rates than whites net of basic controls. Relative to whites, blacks have 94% (1.94–1 = .94) and 84% (1.84–1 = .84) higher risks of long-term unemployment and incarceration respectively. Conversely, blacks have 34% (1–.66 = .34) lower risk of college enrollment. In contrast, blacks' risk of military service is relatively similar to whites even in the baseline model (.94–1 = .06), and converges further in the final model (1.04–1 = .04). Furthermore, the differences in risks of military enlistment are not statistically significant at $p < .10$ for all models.

Standardized test scores mediate risks of all transitions considerably but widen risks between positive and negative transitions among blacks. Controlling for AFQT score percentile decreases blacks' hazard ratio of long-term unemployment and incarceration, relative to whites, to 1.63 (63% higher risk than whites) and 1.61 (61% higher risk than whites) respectively in model (2). On the other hand, blacks' hazard ratio of college enrollment is now positive and significant (1.25) controlling for standardized test scores. Blacks are 25% more likely to enroll full-time in college relative to whites when AFQT scores and other covariates are the same as white. Blacks' risk of military service continues to be statistically indistinguishable from whites (1).

Further, controls for socioeconomic status decrease risks of negative transitions, while they increase risks of positive transitions for blacks relative to whites. Additional control for parents' mean years of education in model (3) does not change blacks' hazard ratios of long-term unemployment and incarceration, while it increases blacks' hazard ratio of college enrollment slightly from 1.25 in model (2) to 1.28 in model (3). Controlling for log household income narrows the hazards between blacks and whites for negative transitions but the hazard ratio of college

Table 3 Cumulative percentage of population who experienced each transition and mean duration (month) of each transition by race over 17-year span between 1994 and 2010 (sampling weight adjusted)[a]

Life event	Cumulative percentage (%)			Mean duration[e] (SE)		
	Total	White	Black	Total	White	Black
Total	100.00	100.00	100.00	204 (–)	204 (–)	204 (–)
Employment	98.06	99.14	97.31	96.46 (.78)	100.60 (.89)	78.41 (1.38)***
College[b]	51.53	54.97	36.64	37.40 (.54)	37.88 (.59)	34.25 (1.21)**
Military	9.50	9.85	7.88	50.31 (2.17)	50.31(2.17)	54.62 (4.12)
Unemployment[c]	73.10	69.79	87.44	12.46 (.27)	10.73 (.31)	18.47 (.53)***
Incarceration[d]	11.10	9.22	19.20	36.97 (2.45)	28.63 (3.04)	54.32 (3.68)***

Asterisks indicate that difference between whites and blacks is statistically significant. Two-tailed test

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

[a]It includes information for 17 years instead of 14 years because the first round questionnaire asked about the previous 3 years of employment history information

[b]Only 2 year/4 year full-time college enrollments are included

[c]Due to the difficulty of measuring long-term unemployment beyond six months, monthly unemployment experience is summarized instead

[d]It includes 19 years of incarceration history instead of 17 years

[e]They do not mean consecutive months but the average months per person over 17 years for those who have ever experienced each event

enrollment widens further to blacks' advantage in model (4). An additional control for parental composition as a proxy measure of parenting resources in model (5) also increases risk of college enrollment for blacks, while it decreases the predicted risk of incarceration for blacks relative to whites.

In sum, results show that blacks' life transitions are polarized into both positive and negative ones as predicted in hypothesis 1 and 2. However, *Hypothesis 1* is supported for college enrollment, but not for military service. In all of the five models, the risk of military service for blacks is not significantly different from whites'. The transitions for blacks into positive and negative transitions, however, are mediated considerably by standardized test scores and socioeconomic status.

To what extent does the average black or white man experience each of the initial transitions after turning 16? The highest probability for the average black man after age 16 is long-term unemployment. The highest probability for the average white man, by contrast, is college education. Table 2 presents the predicted probabilities based on the full model (5). In the left panel, the mean values and the effects of the covariates are assumed to be different for blacks and whites: for example, the mean AFQT score percentile is set at 55.67 for whites and 26.90 for blacks (see Table 1 for mean values). In the right panel, the mean values and the returns are assumed to be the same across race: for example, the mean AFQT score percentile is set at 49.46 for both whites and blacks. Results show that an average young white man is most

likely (45.8%) to enroll in college but also likely to experience long-term unemployment albeit to a lesser degree (20.0%). Probabilities of military service and incarceration are much smaller at 5.5 and 6.3% respectively. Conversely, an average young black man is most likely to experience long-term unemployment (39.8%) and is less likely to go to college (25.3%). Not surprisingly the probability of incarceration is high at 12.0%, about half the risk of college enrollment. The probability of joining the military is comparatively small at only 5%.

An average black man is more likely to experience negative transitions and less likely to experience positive transitions compared to an average white man, even net of race differences in educational attainment, AFQT scores, socioeconomic status, and regions. An average white man has a 45.8% probability of enrolling in college after age 16, whereas an average black man has only a 25.3% probability of doing so. The 20.5% (45.8–25.3 = 20.5) difference is statistically significant at $p < 0.01$ level. While the probability of long-term unemployment for a white man is 20%, it is about twice that for a black man (39.8%). It is the same for incarceration: while the probability for a white man to get incarcerated is 6.3%, it is double for a black man (12.0%). Racial differences in predicted probability of long-term unemployment and incarceration are statistically significant.

However, when the values of covariates are set at overall means across races, it changes the predicted probabilities. The right panel in Table 2 presents the predicted probabilities from the counterfactual assumption that holds all variables constant at the overall mean except for race. Thus, the difference in the predicted probabilities between blacks and whites in this panel shows how much race alone creates unequal risks for each life event. If all conditions are the same, including returns to class and educational background, as an average white man, a black man (44.8%) is more likely to go to college than a white man (41.5%). Although this black man is 28.9% likely to experience long-term unemployment, much larger than 22.2% for a white man, the probability is much less than that (39.8%) for a black man with average values of covariates among blacks only. Incarceration is an extreme case. When an average black man shares the same average value of covariates, his probability (8.0%) is similar to a white man with the same attributes (7.1%) and the difference is not statistically significant. An average black man in his racial group has a 12% probability of becoming incarcerated whereas the probability reduces to 8.0% when he shares average values on covariates across races. This indicates that the main reason for higher incarceration risk for blacks is linked to their lower standardized test scores and socioeconomic status.

Finally, it is worth noting that the probability of incarceration is larger than military service for both blacks and whites, although much larger for blacks. On average, white men have a 6.3% probability of being incarcerated and a 5.5% probability of joining the military. For an average black man, the risk of incarceration (12.0%) is more than double the probability of military service (5.0%). This risk is similar even when a black man and a white man share the same average attributes across race. A white man has a 7.1% probability of incarceration against only a 5.7% probability of

serving in the military. The gap is larger for a black man: 8% probability of incarceration and 4.4% of military service.

Beyond the first transitions, blacks cumulatively experience negative transitions at higher rates than whites and positive transitions at lower rates than whites. Table 3 presents the cumulative percentage of the population who ever experienced each event (not mutually exclusive) and the mean duration of each transition for whites and blacks by race. More than half (55%) of whites enrolled full-time in college, while only about one third (34%) of blacks did. Ten percent of whites ever served in the military, while about 8% of blacks did. On the other hand, 87% of blacks ever experienced unemployment and 70% of whites did. Lastly, 19% of blacks ever became incarcerated, while 9% of whites did.

The comparison of first transitions with traditionally measured cumulative risks of the major alternative life transitions shows that the transitions are experienced sequentially and young men are exposed to multiple transitions at different stages of the life course. While 6% of whites experienced incarceration as their first transition (Table 1), 3% more of whites (Table 3) have additionally experienced incarceration after other transitions. On the other hand, 13% of blacks became initially incarcerated (Table 1) as their first transition but 6% additional of blacks have ever become incarcerated (Table 3) after other transitions. Conversely, higher proportions of whites have additionally served in the military after other transitions (initially 6% but cumulatively 10%) than blacks (initially 6% served but cumulatively 8% served). This suggests that blacks may have been channeled into negative transitions from previous competing transitions but such channeling may have occurred in the opposite direction for whites leading to positive transitions.

Furthermore, whites experience positive transitions for longer periods whereas blacks experience negative transitions for longer periods. Whites were enrolled in college for 38 months on average compared to 34 months for blacks. Military service is a little different from college enrollment in that service time is not statistically different for blacks and for whites. Blacks' mean duration of unemployment is about 19 months compared to 11 months for whites. For incarceration, whites spent 29 months behind bars on average compared to 54 months for blacks.

Discussion and Conclusion

Life-course research has examined changes in human lives across multiple life domains such as family, military service, incarceration, and unemployment (Mayer 2009). However, one weakness in this literature is that there is no coherent explanatory theory (DiPrete and Eirich 2006; Mayer 2009). One reason may lie with the tendency for empirical studies to focus on one specific life event while ignoring others. Life events should be thought of as competing risks, not discreet choices.

Using a nationally representative sample survey, this study examines a broad set of alternative life transitions that contemporary youths may face in their school-to-labor market transition: college education, military service, civilian employment,

long-term unemployment, and incarceration. Because each transition yields differing subsequent outcomes in the labor market, how the first transitions are racialized is critical for racial inequality over the life course as well as for the aggregate level of adult racial inequality. Results show that whites experience positive transitions like college enrollment at higher rates than blacks, while blacks experience negative transitions like long-term unemployment and incarceration at higher rates than whites. However, the military, which had drawn a disproportionate share of blacks compared to whites in most of the AVF era, no longer does, as today a similar proportion of blacks to whites join the military. Furthermore, duration analyses show that such racialized selections are likely to be cumulative because blacks spend a longer time in negative transitions whereas whites spend a longer time in college.

Such channeling of young black men into negative transitions is only partly attributable to their low standardized test scores and socioeconomic status relative to whites. When these variables are controlled for, blacks' hazard ratios of negative transitions decline considerably from 1.94 to 1.50 for long-term unemployment and from 1.84 to 1.38 for incarceration but marginally significant at $p < 10$ (Fig. 1). Predicted probabilities of incarceration for black men become similar to white men's if they have the same average AFQT scores and socioeconomic measures and returns to them across race (Table 2). These results suggest that racial inequality in terms of academic preparation and socioeconomic class translates to children through such channeling of average black youths into negative transitions, which hampers their mobility over the life course. Standardized test scores and socioeconomic status explain a significant portion of higher risks for blacks of incarceration and long-term unemployment relative to whites. However, the fact that blacks still face a 38% higher risk of incarceration and 50% higher risk of long-term unemployment controlling for these conditions indicates that blacks still struggle with unequal treatment in the labor market and from law enforcement relative to white counterparts.

Mare and Winship (1984) once argued that competitive blacks are positively selected into college and the military whereas the relatively less competitive remaining blacks are less likely to be employed, which in turn leads to a constant black–white employment rate gap despite increasing levels of education for blacks. The current study shows that this still is true among the millennial generation but only for college education. Blacks' risk of military service is now not much different from whites in all models and never statistically significant. This result is consistent with more recent findings from Kleykamp (2006) and Lutz (2008), but the historical context of such change has not yet been clearly explained.

Why do blacks no longer serve in the military at higher rates than whites? One reason may be that military service opportunity has declined significantly since the early AVF because of downsizing. Annual enlisted accession peaked at about 550,000 in 1977 but continually dropped to less than 200,000 in 2008 (Armor and Gilroy 2010). As military service opportunity declined, some proportion of the newly unqualified blacks, who otherwise would have served, were absorbed into higher education rather than into the civilian labor market (Kleykamp 2010). Another reason may be the decline in the propensity to serve in the military between

the two cohorts after two major wars. Willingness to serve in the military among young African-Americans declined in this period (Segal, Bachman, Freedman-Doan, & O'Malley 1999), resulting in a sharp drop in black representation in enlisted accessions in 1991 (after the first Gulf War) and in 2002 (after the 9/11 World Trade Center terrorist attacks) (Armor and Gilroy 2010).

However, it is necessary to pay attention not only to blacks' risk of military service relative to whites, but also to how the relative risk of military service to other transitions changed over time. The risk of incarceration among millennial youth has increased compared to older generations. When prison began to emerge as an institutional competitor to the military and college, 17.4% of black men born between 1965 and 1969 had served in the military and 22.4% of black men had experienced incarceration (Pettit and Western 2004). The ratio of cumulative risks for incarceration and for military service (not mutually exclusive) was 1.3 (22.4%/17.4% = 1.3). The updated estimation in the current study using a more recent birth cohort (1980–1984) shows that military service cannot even compete with the incarceration transition for blacks with current ratios of 2.4 (19.2%/7.9% = 2.4) cumulatively (Table 3).

In terms of predicted probability of first transition, an average black man is more than twice as likely to go to jail (12.0%) than serve in the military (5.0%) (Table 2). The situation does not improve even when a black man's AFQT score and socioeconomic status is the same as an average white man's. A black man faces incarceration risks (8.0%) twice that of military service (4.4%) even when AFQT percentile and socioeconomic status is the same as the white counterpart at means of control variables (Table 2). However, the risks of the transitions have likely changed depending on test scores and educational attainment. Comparing the two cohorts, in 1997 and 1979, of the NLSY, Han (2018) finds that less-educated low-skilled black men who otherwise would have served in the military are now likely to go to prison instead. These findings suggest not only that blacks are no more likely to join the military than whites but also that they are more likely to become incarcerated than serve in the military. AQThe expansion of the penal system in tandem with military downsizing (Gupta and Lundquist 2013; Han 2017) and channeling of black men with low aptitude into the penal system (Han 2018) has likely decreased the probability of black being enrolled in military service, which in turn leads to an even larger proportion of whites (9.85%) than blacks (7.88%) serving in the military (Table 3).

Revisiting his earlier controversial work (Wilson 1978), Wilson (2011) points out that within-group educational, occupational, and earnings inequality has increased among blacks. Black high school dropouts' mobility deteriorated, but the earnings gap between blacks and whites narrowed for the college educated. This study offers insights into life-course processes that may contribute to this within-race inequality by revealing the relative risks of initial transition into positive and negative institutional statuses. Polarized transitions for blacks into the positive alternatives of college education and negative alternatives of long-term unemployment and incarceration (conditional on standardized test scores and socioeconomic status) show that

intervention for better quality education and boosting of socioeconomic conditions may help create more equal transitions for blacks and whites. However, making economic conditions the same for blacks and whites is not enough to eliminate racial disparities. While blacks would benefit greatly from educational interventions relative to whites, more likely pursuing college enrollment, blacks at the lower end of the labor market would not benefit as much since they would still face a higher risk of incarceration and long-term unemployment. This suggests that policies and future research should address the dynamics of within-race inequality generating processes along with between-race inequality (Wilson 2011). In addition, as the alternative of military service is becoming less available to many less-educated low-skilled blacks and as they increasingly encounter long-term unemployment and incarceration transitions, it is necessary to create better ways to provide transitions into other feasible employment, training, and education opportunities that military service once provided to racial minorities and socioeconomically marginalized groups.

This study examines only the first transitions. However, the life-course literature points out that these life events do not exclusively occur within young adulthood periods (Elman and O'Rand 2007). Future research should address sequences of these alternative events and long-term consequences in the labor market as extended rounds of the survey accumulate. In addition, it is not always possible to define one's status clearly. For example, due to the expansion of college education and the financial burden from its increased cost, an increasing number of contemporary college students work while pursuing their degrees (Weiss and Roksa 2016). Thus, future research should account for finer employment statuses including employment while enrolling in college. Expanded employment types may reveal better understanding of labor market trajectories over time after experiencing these key life events.

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Appendix

See Tables 4, 5, 6, 7.

Table 4 Cox regression competing risk hazard ratios of college enrollment since age 16 (sampling weights adjusted)

Variables	(1)	(2)	(3)	(4)	(5)
Black	0.66***	1.25***	1.28***	1.38***	1.43***
	(0.05)	(0.11)	(0.11)	(0.12)	(0.13)
Less than high school/GED	0.06***	0.09***	0.10***	0.10***	0.10***
	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)
AFQT score percentile		1.03***	1.02***	1.02***	1.02***
		(0.00)	(0.00)	(0.00)	(0.00)
Biological parent's education year			1.12***	1.10***	1.10***
			(0.02)	(0.02)	(0.02)
(log) Household income in 1979				1.21***	1.18***
				(0.05)	(0.05)
Not living with both parents					0.85**
					(0.06)
MSA	1.49***	1.24***	1.16*	1.13	1.13*
	(0.11)	(0.09)	(0.09)	(0.08)	(0.08)
Northcentral	0.95	1.01	0.95	0.94	0.93
	(0.08)	(0.08)	(0.08)	(0.07)	(0.07)
South	0.88	1.06	1.02	0.99	0.98
	(0.07)	(0.09)	(0.09)	(0.08)	(0.08)
West	0.90	0.95	0.89	0.88	0.88
	(0.08)	(0.09)	(0.08)	(0.08)	(0.08)
Person-months at risk	511,057,435				
Number of failure	3,406,511				
Number of subjects	8,113,858				

Exponential form of robust standard errors in parentheses. Two-tailed test

*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

Table 5 Cox regression competing risk hazard ratios of military service since age 16 (sampling weights adjusted)

Variables	(1)	(2)	(3)	(4)	(5)
Black	0.94	1.21	1.20	1.11	1.04
	(0.17)	(0.25)	(0.25)	(0.24)	(0.24)
Less than high school/GED	0.25***	0.29***	0.29***	0.28***	0.27***
	(0.06)	(0.08)	(0.08)	(0.07)	(0.07)
AFQT score percentile		1.01***	1.01***	1.01***	1.01***
		(0.00)	(0.00)	(0.00)	(0.00)
Biological parent's education year			0.96	0.98	0.98
			(0.04)	(0.04)	(0.04)
(log) Household income in 1979				0.87	0.91
				(0.08)	(0.09)
Not living with both parents					1.32
					(0.24)
MSA	0.88	0.82	0.83	0.85	0.83
	(0.16)	(0.15)	(0.15)	(0.16)	(0.16)
Northcentral	1.08	1.12	1.13	1.15	1.17
	(0.27)	(0.28)	(0.29)	(0.29)	(0.30)
South	1.44	1.58*	1.59*	1.61**	1.64**
	(0.34)	(0.38)	(0.38)	(0.39)	(0.40)
West	1.07	1.10	1.12	1.12	1.14
	(0.31)	(0.32)	(0.32)	(0.32)	(0.33)
Person-months at risk	511,057,435				
Number of failure	437,874				
Number of subjects	8,113,858				

Exponential form of robust standard errors in parentheses. Two-tailed test

*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

Table 6 Cox regression competing risk hazard ratios of long-term unemployment since age 16 (sampling weights adjusted)

Variables	(1)	(2)	(3)	(4)	(5)
Black	1.94***	1.63***	1.62***	1.50***	1.50***
	(0.15)	(0.13)	(0.13)	(0.13)	(0.13)
Less than high school/GED	1.64***	1.45***	1.41***	1.37***	1.37***
	(0.12)	(0.11)	(0.11)	(0.11)	(0.11)
AFQT score percentile		0.99***	0.99***	0.99***	0.99***
		(0.00)	(0.00)	(0.00)	(0.00)
Biological parent's education year			0.92***	0.94***	0.94***
			(0.02)	(0.02)	(0.02)
(log) Household income in 1979				0.88***	0.88***
				(0.03)	(0.03)
Not living with both parents					0.98
					(0.08)
MSA	0.84**	0.88	0.92	0.94	0.94
	(0.07)	(0.07)	(0.08)	(0.08)	(0.08)
Northcentral	0.86	0.83*	0.86	0.86	0.86
	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)
South	0.90	0.85	0.85	0.85	0.85
	(0.09)	(0.09)	(0.08)	(0.08)	(0.08)
West	0.85	0.82	0.86	0.86	0.86
	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)
Person-months at risk	511,057,435				
Number of failure	1,926,612				
Number of subjects	8,113,858				

Exponential form of robust standard errors in parentheses. Two-tailed test

*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

Table 7 Cox regression competing risk hazard ratios of incarceration since age 16 (sampling weights adjusted)

Variables	(1)	(2)	(3)	(4)	(5)
Black	1.84***	1.61***	1.60***	1.47**	1.38*
	(0.26)	(0.25)	(0.25)	(0.24)	(0.23)
Less than high school/GED	4.64***	4.23***	4.12***	4.01***	3.94***
	(0.69)	(0.65)	(0.63)	(0.62)	(0.61)
AFQT score percentile		0.99*	1.00	1.00	1.00
		(0.00)	(0.00)	(0.00)	(0.00)
Biological parent's education year			0.94	0.96	0.96
			(0.04)	(0.04)	(0.04)
(log) Household income in 1979				0.88**	0.92
				(0.05)	(0.06)
Not living with both parents					1.41**
					(0.21)
MSA	0.79	0.82	0.85	0.86	0.84
	(0.12)	(0.12)	(0.13)	(0.13)	(0.13)
Northcentral	1.38	1.34	1.36	1.37	1.38
	(0.28)	(0.27)	(0.27)	(0.27)	(0.28)
South	0.86	0.83	0.82	0.82	0.82
	(0.17)	(0.17)	(0.17)	(0.17)	(0.17)
West	1.01	0.97	1.01	1.00	1.00
	(0.25)	(0.24)	(0.25)	(0.25)	(0.25)
Person-months at risk	511,057,435				
Number of failure	594,693				
Number of subjects	8,113,858				

Exponential form of robust standard errors in parentheses. Two-tailed test

*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

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