Falling in and Getting Out of Unemployment:
Ethnoracial and Class Differences across Business Cycles

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Research indicates that individuals of different races, ethnic backgrounds, and class origins tend to differ in their unemployment rates. We know less, however, about whether these differences result from the different groups' unequal risks of entering or exiting unemployment, and even less about how economic fluctuations moderate the ethnoracial and class-origin gaps in the long-term risks of transitioning into and out of unemployment. Using Rounds 1-17 of the National Longitudinal Survey of Youth 1997 and event history models, we show that non-Hispanic blacks (blacks) become more similar to non-Hispanic whites (whites) in the hazard of entering unemployment when the local unemployment rate rises, perhaps because jobs largely closed to the former are eliminated in a greater proportion during recessions. Nonetheless, blacks' relatively slow pace of transitioning from unemployment to jobs decelerates further with economic downturns. By contrast, Hispanics' paces of entering and exiting unemployment relative to non-Hispanic whites hardly change with local unemployment rates, even though unemployed Hispanics are generally more disadvantaged in their chances of finding jobs. With respect to class origin, we show that the advantages in both unemployment entry and recovery for men with a postsecondary-educated parent diminish with economic deteriorations. Thus, although economic recessions have changed the existing disadvantages with regards to unemployment risk that certain ethnoracial and class-origin groups face, the changes are by no means universal for all disadvantaged groups.

The impact of unemployment on individuals is well documented. Not only does unemployment cause a loss of income for the jobless period, but it is also "scarring" in the long run, leading to lower earnings, worse job quality, and higher psychological distress even after individuals regain jobs (Brand 2006, 2015; Gangl 2004; Turner 1995; Young 2012). Unemployment, therefore, is argued to be a major trigger event in life that has the potential to set up major shifts in individuals' lifetime income and well-being (DiPrete 2002; DiPrete and McManus 2000).

Because the experience of unemployment is highly consequential, an understanding of the dynamics of social inequality requires us to address the question of how different social groups have different chances of experiencing and recovering from unemployment. Previous research has documented substantial racial and ethnic disparities in unemployment rates (Couch and Fairlie 2010; Hoynes et al. 2012; Reimers 2000; Wilson et al. 1995). In the United States, for example, blacks' unemployment rates have been at least twice as much as non-Hispanic whites' for most of the past several decades (DeDilver 2013; Spriggs and Williams 2000). In addition to race-ethnicity, individuals' class origin is also likely to contribute to differential unemployment risk, as sociologists have long shown that individuals from families with higher socioeconomic status tend to enjoy greater labor market success (Blau and Duncan 1967; Laurison and Friedman 2016). A study using a longitudinal sample from Wisconsin, in particular, demonstrates that those from wealthier families suffer from job losses less often (Brand 2006), suggesting the existence of an unemployment gap by class origin.

Despite much prior attention to the divergent unemployment rates among different social groups, systematic analyses of how ethnoracial and class disadvantages manifest in individuals' paces of entering and exiting unemployment remain scarce. Making a distinction between the

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hazards of entering unemployment and its recovery, which we narrowly define as transitioning from unemployment to jobs, is important for our knowledge of the dynamics of unemployment. Moreover, this distinction helps us develop policies that can more effectively reduce ethnoraical or class gaps in unemployment. For instance, if the higher unemployment rate for a certain racial or class group has to more do with the group's higher likelihood of entering unemployment, rather than its paces of leaving unemployment for jobs, then policies aiming to reduce the group's unemployment rate should focus more on retention of workers from that group. Conversely, if a groups' higher unemployment rates mainly result from its slower pace of obtaining jobs following unemployment, policies to improve unemployed people's access to jobs would be critical for bridging the overall gap in unemployment.

As relative few prior studies distinguish individuals' paces of entering from recovering from unemployment, our knowledge of whether the ethnoracial or class disadvantages in unemployment entry and recovery vary with local economic conditions is also limited. Theoretically, although employers may consciously or unconsciously prefer workers of a certain race, ethnicity, or class origin (Reskin 2014), resulting in gaps between social groups in the hazards of entering and recovering from unemployment, such gaps may narrow or widen with economic fluctuations. For example, because a discriminatory taste can prevent employers from hiring or retaining the most productive workers with the lowest cost (Arrow 1973; Becker 1971; Reskin and McBrier 2000), the greater economic pressure brought by recessions may weaken this taste, thereby altering existing group differences in the likelihoods of transitioning in and out of unemployment. At the same time, however, because an economic downturn decreases labor demand, the labor queue for jobs is likely to lengthen, with more people with characteristics preferred by employers in the queue (Reskin 2014). Because the relatively abundant labor supply gives employers more

options, workers from disadvantaged groups may have greater difficulty finding jobs, making them more likely to become or stay unemployed as their local economy deteriorates. Alternatively, it is also possible that hiring and dismissal practices are highly institutionalized and will not change with macroeconomic shifts, resulting in persistent ethnoracial and class-origin gaps in the hazards of entering and existing unemployment (Vuolo et al. 2017). Without a thorough analysis of how different groups fare with economic recessions, however, we do not know whether the ethnoracial or class gaps in unemployment dynamics vary by the economic conditions in the context.

In this study, we use 17 rounds of data from the National Longitudinal Survey of Youth 1997 (NLSY97) to examine a contemporary cohort's experiences of falling into and recovering from unemployment in the United States, with a focus on how the ethnoracial and class gaps in the paces of entering and exiting unemployment vary by local economic conditions. The NLSY97 consists of a nationally representative sample of young adults whose work years have coincided with a period of drastic economic fluctuations, including the Great Recession. Unlike many existing studies that rely on individuals' employment status or transitions within a short period of time (e.g., Couch and Fairlie 2010; Reimers 2000; Wilson et al. 1995), we incorporate the NLSY97 cohort's full life and work histories in the analysis. Doing so enables us to take into account important time-varying individual characteristics unaccounted for in previous research, including individuals' length of work experience, earlier spells of unemployment, and other histories that may scar them in the labor market (e.g., incarceration). Moreover, with full work histories we are able to examine how men and women of different races, ethnicities, or class backgrounds differ in their paces of experiencing unemployment and its recovery over time, not just their rates of entering and existing unemployment at a cross-sectional point. Our analysis therefore provides a more comprehensive view of how ascribed characteristics such as race-

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ethnicity and class origin shape individuals' long-term risks of unemployment, as well as how these risks are conditioned by the fluctuations in their local economy.

Research on Ethnoracial and Class Differences in Unemployment Risk

Much research shows that individuals of different races or ethnic backgrounds have different likelihoods of experiencing unemployment. Blacks' unemployment rate, for example, has been considerably higher than non-Hispanic whites', even in times of steady economic growth (Bradbury 2000; DeDilver 2013; Spriggs and Williams 2000). Although researchers generally pay less attention to Hispanics' unemployment than blacks' , recent studies indicate that the former's risk of job loss is similarly higher than that of whites (Brand 2015; Hoynes et al. 2012).

Despite considerable evidence on racial and ethnic gaps in unemployment rates, especially between blacks and whites (Freeman and Rodgers 2000; Reimers 2000; Spriggs and Williams 2000; Wilson et al. 1995), few studies use individual-level data to examine the ethnoracial gaps in the paces of transitioning into and out of unemployment. Even fewer address how the gaps in these two types of transitions may narrow or widen with changes in local economic conditions. Based on the aggregate-level evidence that blacks' unemployment rates are more volatile than whites', however, some economists have suggested that compared to whites, blacks are "first fired" when the business cycle weakens and "last hired" when the economy expands (Bradbury 2000; Freeman 1973; Reimers 2000). That is to say, not only are blacks more likely to enter and less likely to recover from unemployment than whites, but their disadvantages in both transitions also amplify during economic downturns. With an analysis of individuals' transitions into and out of unemployment across business cycles, Couch and Fairlie (2010) nevertheless find only partial support for the "first fired, last hired" hypothesis. Specifically, these researchers show that blacks are disproportionately more likely than whites to transition to unemployment when their state's unemployment rate rises, but the black-white gap in the rate of

transitioning from unemployment to jobs is constant regardless of local economic conditions.

Although Couch and Fairlie's (2010) study is one of the few studies that focuses on individuals' transitions, rather than their overall unemployment levels or aggregate flows into and out of unemployment (e.g., Freeman and Rodgers 2000; Wilson et al. 1995), it does not address other potentially disadvantaged groups in the labor markets, such as Hispanics. We therefore do not know whether the findings regarding the black-white gaps in transitioning into and out of unemployment across business cycles also apply to Hispanics or other underprivileged groups. More important, because Couch and Fairlie (2010) only observe individuals' employment transitions during given three months, rather than over a long period of time, their analysis lacks measures that are likely to account for the black-white gaps in transitioning into and out of unemployment, such as their total amount of work experience and histories of previous unemployment spells. Relying on the Current Population Survey, rather than panel surveys that document individuals' life events over time, Couch and Fairlie's (2010) study also fails to take into account factors that are well known for shaping men's and women's labor market chances, such as a history of incarceration and the number of children (Budig and England 2001; Pager et al. 2009).

In comparison to race-ethnicity, prior research on unemployment risks pays much less attention to class origin. Sociological research nevertheless suggests that the paces of entering and recovering from unemployment may depend on the socioeconomic status of one's natal family. Specifically, using a longitudinal sample from Wisconsin, Brand (2006) shows that even after taking into account individuals' own education and cognitive abilities, those who grew up in higher-income households are still less likely to undergo job displacement. This finding is consistent with the argument that individuals of a higher class origin enjoy a lasting advantage in the labor market through possessing social ties and other intangible qualities appreciated by

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employers (Laurison and Friedman 2016). This same advantage can also be expected to lead those with higher parental socioeconomic status to recover faster from unemployment, if they ever experience it. To our knowledge, however, no existing research has addressed the class-origin differences in the pace of recovering from unemployment. Similarly, we hardly know whether and how class-based disadvantages in unemployment entry and recovery vary with local economic conditions.

Theoretical Reasons for Variation in Ethnoracial and Class Disadvantages by Local Economy

Although empirical research on how ethnoracial and class disadvantages in unemployment amplify or reduce with economic fluctuations is rather limited, the literatures on job matching processes and labor market discrimination help provide theoretical reasons why individuals with ascribed characteristics preferred by employers may encounter especially large or small advantages over other individuals according to their local economic conditions. To begin, proponents of the queuing model have long argued that the labor market consists of two types of queues: job and labor queues. Whereas the former reflect potential workers' ranking of jobs, the latter reflect employers' ranking of workers (Kaufman 2002; Reskin 2014). Workers in the front of the labor queue, who possess traits appreciated by employers, are able to obtain jobs in the front of the job queue, which generally have higher pay, better benefits, and other desirable traits. Because employers are likely to rank workers according to not only their qualifications but also ascribed characteristics, such as race-ethnicity and class origin (Neumark 2016; Reskin and McBrier 2000), blacks, Hispanics, and those from underprivileged families may have lower chances of obtaining jobs deemed desirable.

Based on the queuing perspective, because economic fluctuations are likely to reshape the compositions of labor queues, they can in turn disadvantage certain groups' job search disproportionately. Specifically, as a worsening economy increases the level of unemployment

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and decreases jobs available, the number of workers with ascribed characteristics preferred by employers, such as those who are white or from upper-class backgrounds, is bound to increase in the labor queue. As a result, blacks and Hispanics, as well as those from underprivileged families, are likely to encounter even greater difficulty finding a job. Therefore, the ethnoracial and class gaps in the pace of transitioning from unemployment to jobs can be expected to widen in times of economic turmoil. Because a changing labor queue is unlikely to affect those who have already had jobs, we may not find economic downturns to alter any existing ethnoracial or class gaps in the hazard of transitioning from jobs to unemployment. Because the changing composition of labor queues may make members of disadvantaged groups especially likely to enter unemployment when they attempt to transition from out of the labor force to jobs, however, a worsening economy may increase disadvantaged groups' relative risks in falling into unemployment slightly.

In contrast to the queuing perspective, social closure theory suggests that economic deteriorations may widen ethnoracial and class-origin gaps in both the paces of falling into and recovering from unemployment (Vuolo et al. 2017). While agreeing with the queuing model about employers' preferences for workers with certain ascribed characteristics, the social closure framework specifically focuses on how members of a privileged group, such as whites, systematically exclude members of other groups to preserve their own advantages in the labor market (Tilly 1998; Tomaskovic-Devey and Skaggs 2002). As an example of social closure, whites have persistently occupied managerial positions over time, with blacks largely relegated to low-level supervisory positions (Stainback and Tomaskovic-Devey 2009). Even among workers with low skill levels, whites are found to be more likely to be channeled to positions that are superior to the ones advertised, whereas blacks more likely to worse jobs (Pager et al. 2009).

If members of privileged social groups indeed interested in excluding potential rivalries

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and maintaining existing race- or other-ascribed-characteristic-based job hierarchies, their interest should intensity when their job security and earnings potential are threatened (Stainback et al. 2010). As the economy deteriorates and unemployment rate rises, workers from privileged groups may become increasingly resistant of any seeming disruption of the existing job hierarchies. As some economists argue (Spriggs and Williams 2000), this increasing resistance makes it exceptionally costly for employers to hire or dismiss workers in ways that do not assure significant advantages of the privileged group (e.g., whites) over others (e.g., blacks). Besides, employers and managers, who are mostly members of relatively privileged groups, may themselves be interested in preserving their group advantages. Following this line of argument, we can expect that worsening economic conditions will exacerbate any existing ethnoracial and class-origin disparities in the hazards of entering and exiting unemployment.

The framework highlighting social closure and privileged groups' resistance raises the possibility that the cost for employers to discriminate may change with economic fluctuations (Spriggs and Williams 2000). The classic economic theory of discrimination, however, underlines a different source for altering the cost of discrimination—namely, market competition (Arrow 1973; Becker 1971). According to this theory, employers may prefer workers with certain ascribed characteristics for reasons unrelated to workers' perceived or actual productivity. Such preferences nonetheless bear economic costs, as the insistence on using people of certain race or class origin hampers employers' ability to hire the most productive workers. Moreover, employers must pay more for the same amount of work if they restrict the labor pool to only people with the preferred ascribed characteristics. Because firms subject to more market competition are less able to pay wage premiums for the sake of satisfying employers' "taste," these firms are thought to be less likely to give preferential treatments based on workers'

ascribed characteristics (Black and Brainerd 2004; Reskin and McBrier 2000).

The argument that employers' preferences for workers of a certain race, ethnicity, or class origin are likely to weaken with increasing market competition has direct implications for the question of how ethnoracial and class gaps in the risks of entering and exiting unemployment may vary with local economic conditions. As economic downturns generally lower firms' profits and increase economic pressure, they should reduce employers' ability to afford discrimination. As a result, employers may have greater incentives to hire blacks, Hispanics, or people from lower-class backgrounds. The fact that those typically less preferred by employers are likely to have lower reservation wages may further add incentives for employers to select such workers in times of recessions. Thus, employers will be less likely than usual to dismiss nonwhites or workers from lower class backgrounds in a deteriorating economy. The increased incentives to hire from relatively disadvantaged groups will also reduce ethnoracial and class gaps in the pace of recovering from unemployment during economic downturns.

As an alternative to the argument that intense market competitions weakens employers' discriminatory tastes, Biddle and Hamermesh (2013) suggest that the disparities between various social groups may change with business cycles without shifts in employers' preferences. Specifically, because an economic recession lowers the value of workers' product, jobs that cost relatively more compared to their contributions are more likely to be eliminated during such a time. Well-paid jobs that are largely closed to nonwhite and other disadvantaged workers are thought to face more substantial decreases in the value of workers' products than lower-end positions that support the day-to-day functions of the organization with recessions. Moreover, as the former type of jobs are given wage premiums to begin with, their cost in relation to the output may more quickly become unjustifiable with economic deteriorations, compared to jobs

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open to all workers. Thus, in uncertain economic times, a larger proportion of the jobs closed to disadvantaged groups may be eliminated (Biddle and Hamermesh 2013:13), leading to narrowing ethnoraical and class gaps in the pace of entering unemployment.

Citing Tilly's (1998) argument that inequality based on categorical distinctions, such as race-ethnicity, is highly institutionalized and durable, Vuolo and colleagues (2017) propose yet another possibility: The relative disadvantages of ethnoracial minority and lower class-origin groups will not change with economic fluctuations. Specifically, these researchers argue that racial or other ascribed-characteristic-based inequality results from long-standing institutionalized staffing practices. Because of organizational inertia and the pressure for institutional isomorphism (DiMaggio and Powell 1983), employers and managers are likely to be reluctant to make substantial changes to existing staffing practices. Consequently, although recessions increase workers' risk of entering unemployment and decrease their paces of recovering from unemployment, these changes will not alter the ethnoracial and class-origin gaps in the paces of entering and exiting unemployment. Using both field experiment and survey data, Vuolo and colleagues (2017) indeed find no difference in the black-white gap in hiring chances in the low-skill labor market before and during the Great Recession.

To summarize, the perspectives reviewed thus far have somewhat different expectations for how economic fluctuations may modify any existing gaps in the paces of transitioning in and out of unemployment between individuals with different races, ethnicities, or class backgrounds.In the statistical analysis, we specifically examine how the paces of entering and exiting unemployment for different ethnoracial and class-origin groups vary with local economic conditions to show which theoretical perspective is the most consistent with the experience of a

contemporary cohort's experience in the United States.[1]

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[1] We should note, however, a finding that is consistent with any of the perspectives does not prove the causal relationship proposed by the proponents of the theory indeed exists, as our analysis cannot specifically verify certain causes, such as discrimination, for the gaps in unemployment dynamics between ethonoracial or class-origin groups.

Data

The data for this study come from Rounds 1-17 of the National Longitudinal Survey of Youth 1997 (NLSY97), which contains a nationally representative sample of individuals born between 1980 and 1984. Beginning in 1997, the NLSY97 has interviewed respondents annually through 2012 (Round 15) and biannually ever since. At Round 17, fielded in 2015/16, the NLSY97 respondents were in their mid-30s. Our data thus capture a contemporary cohort's labor market experiences during the period of young adulthood, when individuals are especially vulnerable to the risk of unemployment (Breen 2005).

The NLSY97 recorded individuals' job histories by week. To conduct an event history analysis of unemployment transitions (which we elaborate later), we combine information collected at all the rounds to create person-month data, with time-varying information for each respondent.[1] We use person-months, rather than person-weeks or person-years, as the unit of the analysis because unemployment episodes often last several months, but less than a year. At the same time, using person-weeks would add computational difficulty unnecessarily. Because job and employment experiences for minors are likely to differ from those of older individuals, we eliminate person-months before respondents turned 18 years old from the sample.

For the statistical analysis, we first use all person-month observations when respondents were exposed to the risk of unemployment—that is, when they were not unemployed—to examine the transition into unemployment. We follow the NLSY97's definition of unemployment, which is a state during which a person is jobless and spends time looking for a job. We consider other jobless periods as out of the labor force. A total of 1,118,689 person-

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[1] When respondents had more than one job, or more than one labor market statuses (e.g., unemployment, holding a job, out of the labor force, etc.) in the same month, we use the job or status that lasted the longest in the month to represent respondents' job or labor market status of the month. If respondents split the month equally between two jobs or two statuses (i.e., two weeks on each), we treat the one occurring earlier as the job or status of the month.

months are included in this part of the analysis. Because any unemployment experience is potentially consequential, this part of the analysis focuses on all transitions into unemployment, including those from a job and a jobless state. Some of the perspectives reviewed earlier, however, specifically concern the entry into unemployment from the state of employment (e.g., the one focusing on disproportionate job elimination). For this reason, we also conduct an additional analysis of the transition from a job to unemployment, using only the person-months when respondents had jobs. The sample for this part of the analysis contains 913,319 person-months. For the final part of the analysis, which examines the pace of leaving unemployment for jobs, we select all person-months when respondents reported to be unemployed,[2] as individuals are only under to the risk of exiting unemployment when they are unemployed. This selected sample contains 109,204 person-months.

Variables, Measurement, and Models

For the three parts of the event history analysis, we create three dependent variables, respectively. For the transition from any state to unemployment, we code the outcome variable as 1, otherwise as 0, if respondents reported to enter unemployment during a given month. For the analysis of transitioning from jobs to unemployment, we only code the dependent variable as 1 if respondents had a job immediately before their entry into unemployment. For the analysis of

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[2] In the NLSY97 data, jobless respondents may report themselves to be unemployed or out of the labor force. In general, we consider only the spells in which respondents reported to be unemployed as unemployment spells. In some cases, however, respondents may report to be unemployed first and then out of the labor force for a few months. In such a scenario, it is possible that respondents were still interested in having a job and became inactive job seekers (hence making them out of the labor force instead of unemployed) after discouraged by their fruitless job searches. This interpretation is especially likely if respondents ended up landing a job after the out-of-labor-force period. We therefore treat the out-of-labor-force period immediately following unemployment as part of the same unemployment spell if respondents ended this out-of-the- labor-force period by transitioning to a job. When we define unemployment spells only used the actual unemployment periods reported by respondents, however, the main results are generally similar.

unemployment recovery, defined as exiting unemployment for jobs, we create a dummy variable indicating that respondents entered a job from unemployment in an observed month.[3] To ensure all the covariates occurred before the event, we use respondents' characteristics at the previous month to construct all the covariates.

To investigate how respondents of different ascribed characteristics may have different paces of unemployment entry and recovery, we introduce race-ethnicity and class origin in the models. We measure race-ethnicity with four mutually exclusive categories, based on the NLSY97's classification: (1) non-Hispanic white, (2) non-Hispanic black, (3) Hispanic, and (4) other. We combine all those who do not belong to categories (1) to (3) into "other" because their number is not sufficiently large for us to further differentiate them. For convenience, we refer to non-Hispanic whites as whites and non-Hispanic blacks as blacks hereafter. We use parental education to approximate class origin, because educational attainment is highly related to earnings and occupational status (Blau and Duncan 1967; Sewell et al. 1969), but potentially more reliable in providing the parents' long-term economic standing than their income or occupation taken at an arbitrary time point (e.g., at the beginning of a longitudinal survey, as in the case of the NLSY97). Specifically, we use a dummy variable indicating that none of respondents' parents have any college education. We use having any college education to divide because having postsecondary education facilitates substantially different occupational options and career prospects. Empirically, our exploratory analysis also suggested that respondents were mainly divided by whether their parents had attended any college.

To test how the gaps in the hazards of unemployment entry and recovery between

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[3] The exception is the scenario described in footnote 2. If respondents were unemployed, followed by a few months out of the labor force, and then transition to a job, we consider the recovery to occur at the time they moved from out of the labor force to a job.

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ethnoracial and class-origin groups vary by local economic conditions, we introduce local

unemployment rate, a time-varying variable, in the models. Unemployment rates are frequently

used to represent business cycles or contextual economic conditions in prior research (Couch and

Fairlie 2010; Freeman and Rodgers 2000). The local unemployment rate for our study is derived

from the geocode data provided by the Bureau of Labor Statistics (BLS) for the NLSY97

respondents. Specifically, the BLS provides the unemployment rate during each interview year

for respondents' metropolitan statistical area or core-based statistical area,[4] which roughly

captures their local labor market. Compared to previous studies that use state-level

unemployment rates (e.g., Couch and Fairlie 2010) or recession years (e.g., Vuolo et al. 2017) to

measure economic fluctuations, our use of local unemployment rates can more precisely gauge

the conditions of the labor markets in which respondents situate.

Our models also include a series of time-varying individual characteristics that may shape

their paces of entering and recovering from unemployment. To begin, we include respondents'

level of education completed, measured in four categories: (1) below high school, (2) high

school, (3) some college, and (4) college and above. We also use a binary indicator for being

enrolled in school to distinguish those whose schooling was still growing. To further capture

respondents' human capital, we measure their cumulative work experience since age 14 (in

months).[5] In addition, we include individuals' marital status and number of children, as these

factors may affect their labor market attachment and job search behaviors. We divide marital

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[4] If a respondent did not live in a metropolitan statistical area or core-based statistical areas, the BLS reported the unemployment rate of the proportion of the state that is not incorporated into any metropolitan statistical area for his or her local unemployment rate.

[5] We do not include time-varying age in the models, because we already include time-varying work experience and educational attainment. For many respondents, these two variables together would provide approximate information about their age. At the theoretical level, we expect individuals' risks of entering or recovering unemployment depend more on their total length of work experience and duration of exposure to the event of interest, rather than age. This is especially the case because our study focuses on unemployment experiences from age 18 to mid-30s; employers are unlikely to make much age differentiation among workers in this age range.

status into four mutually exclusive categories: (1) never married, not cohabiting, (2) cohabiting, (3) married, and (4) divorced, separated, or widowed.[6] We construct the number of children using respondents' reported number of biological children at each time point. In an exploratory analysis, we used the number of children residing in the same household, rather than biological children, and the results were similar.

Because previous research shows that a history of incarceration reduces individuals' chances of obtaining jobs, especially for racial or ethnic minorities (Pager et al. 2009), we further introduce a dummy variable indicating that respondents had ever been incarcerated. For the analysis of recovering from unemployment, we also include a dummy variable for the receipt of unemployment insurance payments during the unemployment spell, as such payments tend to reduce individuals' need to accept jobs beneath their skill levels, thus extending their unemployment duration (Gangl 2004, 2006).

Given that respondents' labor market locations may affect their hazards of entering unemployment, as well as their paces of recovering from unemployment at a later time, the models also contain occupational status and industry. For the models about unemployment entry, we include current occupational status and industry. We measure occupational status by merging the socioeconomic index proposed by Hauser and Warren (1997) and updated by Frederick (2010) with the four-digit occupational codes in our data. Because not all respondents have jobs immediately before entering unemployment—they could be in school or out of the labor force— we further include current employment status, divided into five mutually exclusive states: (1) in school, without a job, (2) in school, with a job, (3) out of the labor force, (4) holding a full-time job, and (5) holding a part-time job. For easier interpretation of the results, we transform the

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[6] The NLSY97 prioritizes the status of divorce or widowed over cohabiting. Hence, if respondents had been divorced and were cohabiting, they would be recorded as divorced.

occupational status scores by deducting the sample mean from each score. As a result of this transformation, the coefficient for out of the labor force, for example, represents the difference in the odds of entering unemployment between a person who was out of the labor force and one with average occupational status. Meanwhile, the coefficient of the mean-centered occupational status indicates how a unit increase from the average occupational status contributes to the odds of entering unemployment. For current industry, we create 18 dummy variables, using the broad categories listed in the 2002 Census Industrial Classification Codes.

For the analysis of transitioning from unemployment to a job, we use occupational status and industry of respondents' most recent, instead of current jobs, as those in unemployment by definition have no current job. The most recent occupational status and industry provide information on respondents' occupation- and industry-specific skills, which are likely to shape their chances of obtaining jobs. In the case that respondents failed to report the occupation or industry of their job immediately prior to unemployment, we use the last known occupation and industry instead, assuming that the jobs for which respondent did report detailed information, including occupation and industry, were more salient and more likely to have an impact on their future job searches. Because the analytic sample for the analysis of unemployment recovery includes a small number of respondents who never had a job before their unemployment spells, we also center the most recent occupational status at the sample mean. Similar to for the models predicting entering unemployment, we also include a variable indicating whether respondents' most recent job before unemployment was a full-time or part-time job. Those with a part-time job recently may be more willing to take a part-time job, which may enable them to exit unemployment faster.

The statistical models also include time-varying controls for respondents' geographic

location. We use a binary indicator for living in an urban area and a categorical variable for the region in which respondents were located (Northeast, North Central, South, or West, as defined by the Census Bureau).[7] Because we adopt an event history approach to examine individuals' paces of entering and recovering from unemployment, we also include in the models the duration at which respondents were exposed to the risk of unemployment or the risk of transitioning from unemployment to a job. We measure the duration of exposure to unemployment risks as the number of months since 18 years old or since the end of the last unemployment spell if they had experienced one since age 18.[8] The duration of exposure to the risk of recovering from unemployment is measured as the number of months since the beginning of the current unemployment spell. We use duration and duration squared in all models to capture the potentially nonlinear relationship. Because previous experiences of unemployment may scar individuals, thereby shaping their future chances of unemployment and reemployment, we also include in the statistical models the number of previous unemployment spells.

With respect to the specific modeling strategy, we use discrete-time hazard rate models, given that a month is a rather discrete time unit (Yamaguchi 1991). The models are of the form:

$$\ln[p_{it+1}/(1 - p_{it+1})] = \gamma_0 + \gamma_1 \text{Dur}_{it} + \gamma_2 \text{Unemp}_{it} + \sum \alpha_j X_{ji} + \sum \beta_j (X_i \times \text{Unemp}_{it}) + \sum \delta_k Y_{kit},$$

where p_{it} is the probability of an outcome event—entering unemployment or recovering from unemployment—occurring for the ith respondent at month t+1, conditional on this event not occurring earlier; γ_0 is the intercept; γ_1 is the coefficient for the duration of exposure to the risk of unemployment or reemployment; γ_2 indicates the effect of local unemployment rate on the

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[7] When there is no information on whether respondents lived in urban areas, we consider their living area to be urban if they lived in what the Census Bureau defines as a metropolitan statistical area.
[8] For the models predicting transitions from jobs to unemployment, however, respondents were only exposed to the risk of such transitions if they had jobs. Therefore, we measure the duration of exposure for those models as the number of months since age 18 or the end of the last unemployment spell during which respondents had a job.

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hazard rate of unemployment or recovery from unemployment; X_i represent j time-constant ascribed characteristics, including race-ethnicity and parental educational level, with $\sum\alpha_j$ as their coefficients; $\sum\beta_j$ denote the effects for the interactions between the ascribed characteristics and local unemployment rate; $\sum\delta_k$ represent the effects of a vector of control variables, Y_{kit}.

Because the NLSY97 oversampled certain minority groups, we also apply the survey sampling weights in all models. As unemployment entry and recovery are both repeatable events, respondents might have experienced multiple transitions in our models. To address this issue, we cluster observations for the same respondents and report robust standard errors.[9] Finally, because factors such as marital status and children may affect men's and women's paces of experiencing and recovering from unemployment differently, we fit separate models by gender.

Results

Before examining how different social groups vary in their paces of falling into and recovering from unemployment, we first present information regarding the prevalence of unemployment experience for the cohort of individuals represented by our sample. Table 2 shows the average number of transitions into and out of unemployment for individuals by race-ethnicity and parental educational level. Overall, the experience of unemployment was common. All groups have experienced more than two unemployment episodes, on average, from age 18 to their mid-30s, while blacks have entered unemployment more than three times in the same period. Even when we excluded the unemployment episodes following a jobless period, for the reason that some of such episodes may have to do with the difficulty for those out of the labor market to reenter workplaces, all members of this contemporary cohort still have experienced

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[9] In a separate analysis, we added a random effect for each respondent to adjust for the possibility of including multiple spells per respondent. We found that the results were similar. We ultimately opt for logit models without random effects, because we can more easily apply sampling weights with such models.

more than one unemployment spell during young adulthood. Similar to blacks, Hispanics' had more transitions into unemployment than whites', but the Hispanic-white difference diminished when we focus on only the transitions among those with jobs. A comparison of the average number of unemployment entries with that of unemployment-to-job transitions further indicates that the majority of people who had undergone unemployment have obtained jobs at a later point. The gap between the two numbers, however, was especially large for blacks, suggesting that they had greater difficulty recovering from unemployment. Another indicator, the average duration of unemployment episodes, also corroborates this racial difference. Blacks spent more months than whites being unemployed once entering unemployment. The duration of unemployment episodes was also longer for Hispanics than whites. Nevertheless, even white workers spent near 6 months, on average, in unemployment.

The comparisons by parental educational level in Table 2 further shows that those with no postsecondary-educated parent experienced a greater number of unemployment episodes than those with one. Moreover, when the former became unemployed, it took them longer to transition to jobs. Unemployment, however, is not a rare event even for those whose parents have some college or more education; on average, they experienced more than one job-to-unemployment transition during young adulthood.

Needless to say, it is likely some of the disparities revealed in Table 2 have to do with the different groups' differing human capital and concentration in occupations, industries, and geographical areas. To estimate the net ethnoracial or class gaps in the hazards of transitioning into and out of unemployment, we turn to the multivariate analysis. Tables 3 and 4 present results from discrete- time hazard models predicting the transition into unemployment for men and women, respectively, with the coefficients of several control variables (e.g., industry) omitted to conserve space. We show a series of models, with increasing complexity, in each table. We begin

with a baseline model containing a range of individual characteristics. Model 2 adds attributes of respondents' current jobs. To investigate whether ethnoracial and class-origin disadvantages in unemployment risks vary by local economic conditions, Model 3 further adds the interactions between race-ethnicity dummies and local unemployment rates, while Model 4 includes the interaction between local unemployment rates and parental educational level. Model 5, the most comprehensive model, include all these interaction terms to ensure the results are consistent when both race-ethnicity and parental educational level are considered.

According to Models 1 and 2 in Table 3, black men have greater odds of falling into unemployment than non-Hispanic white men during a given month, regardless of whether their job characteristics are taken into account. Likewise, the odds of entering unemployment are greater for those whose parents lack postsecondary education. These findings are generally consistent with previous researchers' claim that blacks and individuals of lower class origins are relatively disadvantaged in the labor market. Interestingly, however, Hispanic men and other ethnoracial minority groups do not have different odds of unemployment entry than white men. The gap between Hispanic and white men in the hazard of experiencing unemployment also does not vary by local unemployment rates. Conversely, black men's relative odds of falling into unemployment to white men's decrease with rises in local unemployment rates. Similarly, having no college-educated parent is less strongly associated with the odds of entering unemployment when the local unemployment rate is higher.

To better illustrate the results, Figure 1 shows the predicted probabilities for white, black, and Hispanic men to enter unemployment during a given month by their parents' educational

level, based on the coefficients in Model 5.[10] We used the sample mean for all other variables to calculate the predicted probabilities. We can therefore view the probabilities of unemployment entry in the figure as those of men who are "average" in all attributes but their race-ethnicity and parental educational level. Based on Figure 1, the probabilities of entering unemployment increase with local unemployment rates for all groups, but the gaps between groups depend on local unemployment. The probability for an average white man to enter unemployment is lower than that of a black man who is otherwise similar, if their local labor market's unemployment rate is comparatively low, say, lower than 6%. The pattern is the same regardless of whether these men's parents' have any postsecondary education. When the local unemployment rate is higher—for example, above 9%—the gap between black and white men in the probability of entering unemployment virtually disappears. Figure 1 also shows that the probability of entering unemployment increases more sharply with local unemployment rates for men whose parents have postsecondary education. This pattern partly reflects that men whose parents have some college education, especially whites, have very low probabilities to enter unemployment when the local unemployment rate is low. The advantage associated with the parent's education, however, diminishes with rises in local unemployment rates. When the local unemployment rate is high, say, at 12% or higher, there is virtually no difference in the probability of entering unemployment between men whose parents have and have no college education, regardless of their race or ethnicity. Altogether, Figure 1 shows that the gap in the probability of entering unemployment between black and white men, as well as that between men with different

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[10] Because the predicted probabilities are for each month, conditional on individuals not entering unemployment before, they are rather small. Nevertheless, if we add up the monthly probabilities for a period of two years (i.e., 24 months), for example, the probability that an individual would experience unemployment once in this period is rather substantial for any group, even when the local unemployment rate is not especially high.

parental educational levels, shrinks with increases in local unemployment.

Turning to Table 3, which present the results on unemployment entry among women, black women were more likely to fall into unemployment than non-Hispanic white women, even after controlling for their job characteristics. Similar to the findings for men, there was no significant difference between Hispanic and white women in the odds of entering unemployment, neither is one between whites and the remaining ethnoracial minorities. Unlike men, however, women whose parents have no postsecondary education were not particularly disadvantaged; those with a postsecondary-educated parent were just as likely to experience unemployment as those without one. Furthermore, although an increase in local unemployment rates enhance the odds of entering unemployment each month, it does not alter the difference between black and white women, as well as between white and other ethnoracial group, in the hazards of entering unemployment. Similarly, there is no significant interaction effect between local unemployment rates and parental educational level for women.

Focusing on the risk of becoming unemployed for those with jobs, Table 4 shows results from discrete-time hazard rate models predicting transitions from jobs to unemployment by gender. After eliminating transitions to unemployment from a jobless state, the results for men and women become more similar. Both black men and women have greater odds than whites to transition from jobs to unemployment when their local unemployment rates are very low. These black-white gaps nevertheless narrows as the local unemployment rate rises. These findings are inconsistent with the argument that blacks are first to lose jobs when local economic conditions worsen. Instead, whites' likelihood of transitioning from a job to unemployment relative to that of blacks with similar characteristics grows as the economy weakens. Unlike for blacks, Hispanic job holders' odds of becoming unemployed hardly vary by local economic conditions.

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Although Hispanic men and women have lower odds of moving from jobs to unemployment than whites (Models 1, 3, 5, and 7), the Hispanic-white gaps do not change with increases in local unemployment (Models 4 and 8).

Table 4 also indicates that although men without a college-educated parent have greater odds of transitioning from jobs to unemployment, their disadvantage does not vary with local unemployment rates. Thus, among men with jobs, the class-based disadvantage is fairly fixed. This finding suggests that our earlier finding the gap in the hazard of entering unemployment between men with and without a postsecondary-educated parent narrows with higher local unemployment rates largely has to do changes among those who originate from a job less state (e.g., school). That is to say, the reduced class gap in unemployment entry during economic downturns mostly results from the shrinking ability to avoiding unemployment when entering or reentering labor markets among young men from privileged family backgrounds. As for women, similar to all previous models, parental education is hardly relevant; it does not affect their chances of transitioning to from jobs to unemployment.

Moving to the analysis of unemployment recovery, Table 5 presents results from discrete-time hazard rate models predicting the transition from unemployment to a job. Beginning with the results for men, Model 1 shows that the odds of recovering from unemployment were lower for all other ethnoracial groups compared to whites. Models 2 and 4 further indicate a negative interaction effect between blacks and local unemployment rates. Conversely, although having no postsecondary-educated parent is negatively associated with the hazard of transitioning from unemployment to jobs, the interaction between the former and local unemployment rates is positive (Model 4).

Figure 2 further illustrates the results for men in Table 5. Similar to Figure 1, we

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calculate the predicted probabilities to transition from unemployment to jobs in a given month for "average" men in our sample who only differ from each other in race-ethnicity and parental educational level, using the coefficients in Model 4. The figure shows that holding their parental educational level constant, white and black men with average characteristics have similar probabilities of transitioning from unemployment to jobs at a given month if their local unemployment rates are relatively low (e.g., < 6%). It is only when the local economic conditions considerably worsen, with the unemployment rates at 6% or higher, the two groups' probabilities of recovering from unemployment diverge. Specifically, a hypothetical black man's probability of recovering from unemployment would decline faster with economic deteriorations than a hypothetical white man's. In contrast, Hispanic men's probability of recovering from unemployment virtually declines at nearly the same rate as does otherwise similar white men's with rises in local unemployment. As to the gap in the probability of unemployment recovery between men with and without a postsecondary-educated parent, Figure 2 indicates that when the unemployment rate is very low, men with a postsecondary-educated parent have a higher probability of transitioning to jobs each month than those without such a parent, had they ever become unemployed. The difference in the probabilities of unemployment recovery between these men, however, diminishes as the local unemployment rate increases. Thus, when it comes to the pace of unemployment recovery, whereas black men's relatively disadvantage to white men amplifies with worsening economic conditions, the relative disadvantage of men with less-educated parents decreases.

Table 5 also shows that the results regarding ethnoracial differences in unemployment recovery for women are similar to those for men. Specifically, black and Hispanic women both have lower odds of transitioning from unemployment to jobs than whites. While the gap between

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Hispanic and white women does not vary with local unemployment rates, the black-white gap does. Unemployed black women's odds of transitioning to jobs decrease disproportionately more with rises in local unemployment than unemployed white women's, even though both groups' odds of recovering from unemployment decline with such economic changes.

Similar to results shown in previous tables, Table 5 indicates that having a more-educated parent is not significantly associated with women's odds of recovering from unemployment. Overall, our results show that class origin, measured by parental educational level, is hardly relevant to women's hazards of entering and exiting unemployment, unlike it is for men. Our additional analysis, not shown here, revealed that having a postsecondary-educated parent was only relevant to women's unemployment dynamics before adding marital status and number of children in the models. Class origin appears to be mainly related to women' marriage and family choices. Although such choices have implications for women's paces of entering and exiting unemployment, controlling for marital and family status takes away any net effect that class background has on women's entry and recovering from unemployment.

Discussion and Conclusions

Rather than finding all ethnoracial or class-based disadvantages amplify or shrink with economic downturns, our analysis shows that different groups' relative disadvantages change in different ways. To be specific, blacks' relative disadvantage in falling into unemployment to whites' diminishes, thanks to the former's disproportionately less increase in the hazard of job-to-unemployment transitions, during economic downturns. Blacks' relative difficulty in recovering from unemployment nevertheless becomes greater in turbulent economic times. By contrast, Hispanics' relative hazards of entering and recovering from unemployment whites' are virtually unchanged with local economic conditions, even though unemployed Hispanics tend to

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transition to jobs more slowly than their white counterparts. As to people of different class backgrounds, approximated by their parents' educational level, we find that for men, the class-based gaps in the paces of entering and recovering from unemployment both narrow with the deterioration of local economy. For women, however, parental educational level does not have a net effect on their paces of entering or recovering from unemployment.

Earlier in the paper we discussed various perspectives related to how changes in local labor market conditions may modify the ethnoracial and class-based gaps in the paces of entering and recovering from unemployment. To better demonstrate how our results correspond to the different perspectives, Table 6 summarizes the findings in terms of whether they are consistent with the hypotheses derived from each perspective. As the table indicates, there is no single explanation that is consistent with all the findings, although the perspective emphasizing social closure and growing resistance of the privileged receives no support universally. Thus, the mechanisms behind changes in different social groups' relative disadvantages with economic fluctuations appear to be different.

With respect to changes in the black-white gap in the hazard of unemployment entry, our results lends support for the framework regarding disproportionate elimination of jobs during economic downturns. As to alterations in the black-white gap in the hazard of recovering from unemployment, the results are most congruent with the approach emphasizing changing compositions of labor queues. Although the narrowing black-white gap in unemployment entry with weakening economic conditions is also consistent with the argument that employers may become less discriminatory under greater market pressure, the fact that blacks' relative disadvantages in recovering from unemployment amplify with greater market pressure makes

this argument unlikely. If the smaller black-white gap in job losses during turbulent economic times indeed reflects employers' reduced discrimination against blacks, this reduced discrimination, if not reflecting in hiring, should at least not increase blacks' relative difficulty in unemployment recovery. More likely, an explanation for changes in black-white gaps in unemployment entry and recovery involves a combination of the perspectives about disproportionate job elimination and changing labor queues. As the local economy worsens, the greater elimination of jobs previously closed to blacks leads to a shrinking black-white gap in the hazard of transitioning from jobs to unemployment. As this change results in a disproportionate increase in whites seeking jobs, unemployed blacks are pushed further back in the labor queues, hence taking longer to transition to jobs.

The results regarding how Hispanics are compared to whites, by contrast, are the most consistent with the explanation highlighting the institutionalization and durability of staffing practices. It seems surprising that the disproportionate job elimination and changing labor queues appear relevant to blacks', but not Hispanics', relative disadvantages to whites'. Nevertheless, prior ethnographic research has noted that employers do not view blacks and Hispanics the same way; rather, they may prefer to hire Hispanics over blacks for low-skill jobs (Newman 2009). Perhaps more important, because the NLSY97 began to collect data from the respondents when they were as young as 12-18 years old, Hispanics in our sample are likely to be born in or have moved to the United States at a young age. Such Hispanics tend to be much better integrated in the labor market than newer Hispanic immigrants, especially if they are well-educated (Villarreal and Tamborini 2018). It is possible that employers' preference for whites over this subgroup of Hispanics is more permeable than theirs for the former compared to blacks. Hence, jobs that are largely closed to blacks may not be closed to these Hispanics to the same extent. With a lower

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level of bias against native- or near native-born Hispanics, the increase in availability of whites in the labor queue during economic downturns also may not alter the staffing practices concerning this subgroup of Hispanics as much. As a result, despite unemployed Hispanics' overall greater difficulty to recover than whites, the gap between the two groups in the pace of transitioning out of unemployment does not change with local labor market conditions.

Table 6 also shows that our findings regarding changes in the class-origin gaps for men are largely consistent with the perspective focusing on how market competition may pressure employers to alter their discriminatory taste. Even though we do not find a closing gap in the risk of being laid off between men with and without a college-educated parent, our results suggest that the relative advantage for men with a college-educated parent in transitioning to jobs from nonemployment shrink as the economy deteriorates. Similarly, such men's relative advantage in the pace of recovering from unemployment decreases with rises in local unemployment. Taken together, these results suggest that in uncertain economic times, employers become relatively more likely to hire those of lower class origin than other times. Thus, the advantage of men of higher class origin in the labor market are more ready to be modified under economic pressure than other types of advantages, such as that for whites over blacks.

By showing how different mechanisms explain the different changes in the relative disadvantages of blacks, Hispanics, and people of lower class origin regarding unemployment with economic fluctuations, this study not only contributes to the general literature on business cycles and unemployment risks but also sheds light on how employers' possible preferences for different ascribed characteristics may endure economic downturns differently. Whereas employers appear to become more likely to overlook class-origin differences during economic downturns, they seem to maintain the usual staffing practices when considering Hispanics versus non-Hispanic

whites. At the same time, our results suggest that employers take advantage of the more abundant supply of other workers and push unemployed blacks further down in their priority list for hiring. However, we should note that our study does not directly examine employers' preferences. Moreover, employers' decisions of hiring a giving group of workers rather than another are not always based on conscious preferences for certain ethnoracial or class groups—implicit bias or preferences for other attributes that tend to be associated with a certain group may be responsible for their decisions. Thus, while our findings lend support for the arguments about employers' preferences, we by no means suggest that employers always actively discriminate one group of workers over the other.

Interestingly, our results also suggest that economic recessions have some equalizing effect on the black-white disparity in unemployment risk, as they tend to narrow the gap in the hazard of falling into unemployment. Given that blacks' relative likelihood of entering unemployment decreases with rises in local unemployment, we can argue that they are not exactly the "first fired" in a recessionary economy.[2] Blacks, however, are the "last hired," as their relative hazard of recovering from unemployment improves with economic expansion. This study, therefore, generates rather different results from Couch and Fairlie's (2010) study, which shows blacks, compared to whites, are first laid off but not last hired over business cycles, or from Vuolo and colleagues' (2017), which finds no changes in blacks' disadvantage in transitioning from unemployment to job during economic recessions. We should note that, in both cases, the researchers focus on individuals' transitions within a short period of time, without analyzing individuals' lifetime risks of experiencing and recovering from

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[2] It is noteworthy that we are referring to the likelihood of entering unemployment net of various personal attributes, including human capital, previous unemployment history, incarceration experience, and labor market location (e.g., industry and occupation). Because blacks and whites may differ in many individual characteristics are conducive to the risk of entering unemployment, at the aggregate level blacks may become unemployed more often during economic downturns than whites, but the net black-white gap tells a different story.

unemployment. Both studies also use more crude measures of local labor market conditions, such as the state unemployment rate or the years during the Great Recession, rather than the unemployment rate of the local labor market in which individuals are situated. In addition, Vuolo and colleagues' study centers on workers with low skill levels, rather than all workers. Our study also focus more on younger workers than the two previous studies do. All these differences may account for our different findings.

Beyond contributing to our knowledge of the mechanisms through which economic downturns reshape disparities in unemployment risks among different social groups, this study has important policy implications. Specifically, results from our analysis indicate that economic recessions do not enlarge existing class-origin or ethnoracial gaps in unemployment risks through disproportionately increasing underprivileged groups' likelihood to be laid off. Therefore, policies aiming to reduce the potentially disproportionate harm economic shifts may have on relatively vulnerable groups should focus on the process of recovering from unemployment. Because the transition from unemployment to a job is especially slow for blacks in comparison to whites during economic downturns, while such downturns do not modify the gaps between Hispanics and whites and between individuals of different class origins in the same way, resources and effort put into helping the unemployed to transition back to paid work during turbulent economic times should disproportionately concentrate on blacks.

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Table 1: NLSY97 respondents' experiences related to unemployment, by race-ethnicity and parental education

	Race-ethnicity				Parental education	
	White	Black	Hispanic	Other	No postsecondary	Some postsecondary
Average number of unemployment entries	2.07	3.66[a]	2.37[a]	2.34	2.75	2.06[b]
	(2.06)	(3.97)	(2.95)	(2.13)	(2.99)	(2.17)
Average number of job-to-unemployment transitions	1.19	1.67[a]	1.23	1.02	1.46	1.11[b]
	(1.40)	(2.34)	(1.90)	(1.21)	(1.92)	(1.39)
Average number of unemployment-to-job transitions	1.84	2.84[a]	2.08[a]	1.88	2.31	1.82[b]
	(1.81)	(3.11)	(2.50)	(1.64)	(2.49)	(1.87)
Average duration of unemployment spells (months)[c]	5.85	8.18[a]	7.27[a]	7.53	7.23	5.97[b]
	(6.86)	(14.1)	(14.4)	(11.5)	(11.0)	(8.33)

Source: Rounds 1-17 of the NLSY97.

Note: The values in parentheses are standard deviations. All the descriptive statistics are weighted by the NLSY97's initial sample weights.

[a] indicates significantly different at the .05 level from the equivalent number for whites

[b] indicates significantly different at the .05 level from the equivalent number for those whose parents have no postsecondary education

[c] The average duration of unemployment spells is calculated only for those who have ever experienced any unemployment spell.

Table 2: Discrete time hazard models predicting men's entry into unemployment

	Model 1	Model 2	Model 3	Model 4	Model 5
Local unemployment rate	.064***	.050***	.057***	.063***	.066***
	(.004)	(.005)	(.006)	(.007)	(.007)
Race-ethnicity (ref. white)					
Black	.183***	.088**	.258***	.086**	.229**
	(.029)	(.030)	(.073)	(.030)	(.075)
Hispanic	-.043	-.013	.087	-.013	.051
	(.034)	(.035)	(.080)	(.034)	(.083)
Other race	.035	.000	-.091	.000	-.080
	(.060)	(.060)	(.157)	(.060)	(.158)
Black* local unemployment			-.027*		-.022*
			(.010)		(.011)
Hispanic*local unemployment			-.015		-.010
			(.011)		(.012)
Other race* local unemployment			.014		.013
			(.023)		(.023)
Parent no college education	.118***	.102***	.101***	.255***	.226***
	(.024)	(.025)	(.025)	(.062)	(.065)
Parent no college*unemployment rate				-.024**	-.020*
				(.009)	(.009)
Education (ref. less than high school)					
High school	-.189***	-.071**	-.070**	-.069**	-.069**
	(.026)	(.027)	(.027)	(.027)	(.027)
Some college	-.353***	-.133+	-.135+	-.139+	-.140+
	(.073)	(.074)	(.074)	(.074)	(.074)
University and above	-.429***	.042	.039	.035	.033
	(.052)	(.057)	(.058)	(.058)	(.058)
Cumulative work experience (month)	-.007***	-.002***	-.002***	-.002***	-.002***
	(.000)	(.000)	(.000)	(.000)	(.000)
Marital status (ref. never-married, not cohabiting)					
Cohabiting	.009	.099**	.098**	.099**	.099**
	(.034)	(.035)	(.035)	(.035)	(.035)
Married	-.199***	-.088*	-.090*	-.087*	-.088*
	(.042)	(.043)	(.043)	(.043)	(.043)
Separated/divorced/widowed	.167*	.136*	.131+	.139*	.135*
	(.066)	(.067)	(.067)	(.067)	(.067)
Number of children	-.004	-.048***	-.047***	-.047***	-.046***
	(.013)	(.013)	(.013)	(.013)	(.013)
Incarceration experience	.059	-.075+	-.077*	-.072+	-.075+
	(.039)	(.039)	(.039)	(.039)	(.039)
Employment status (ref. in school, no job):					
In school, with a job		-1.399***	-1.398***	-1.401***	-1.400***
		(.061)	(.061)	(.061)	(.061)
Out of the labor force		.504***	.504***	.500***	.501***
		(.041)	(.041)	(.041)	(.041)
Part-time job		-.908***	-.910***	-.912***	-.913***
		(.061)	(.061)	(.061)	(.061)
Full-time job		-1.161***	-1.162***	-1.166***	-1.166***
		(.056)	(.056)	(.056)	(.056)

Occupational status		-.022***	-.022***	-.022***	-.022***
		(.002)	(.002)	(.002)	(.002)
Industry		Included	Included	Included	Included
Constant	-3.885***	-3.206***	-3.250***	-3.282***	-3.302***
	(.052)	(.059)	(.065)	(.066)	(.069)
N of observations	547,902	547,902	547,902	547,902	547,902
N of Events	10436	10436	10436	10436	10436

Note: All models control for duration of exposure, duration squared, number of prior unemployment spells, region, and being in an urban area or not, but the coefficients are omitted to conserve space. The initial weights of the NLSY97 are applied to the models. Values in parentheses are robust standard errors.
*** p < .001, ** p < .01, *, p < .05, † p < .1

Table 3: Discrete time hazard models predicting women's entry into unemployment

	Model 1	Model 2	Model 3	Model 4	Model 5
Local unemployment rate	.048***	.037***	.040***	.042***	.043***
	(.005)	(.005)	(.007)	(.007)	(.008)
Race-ethnicity (ref. white)					
Black	.273***	.280***	.360***	.279***	.350***
	(.031)	(.031)	(.074)	(.031)	(.075)
Hispanic	.000	.007	.047	.008	.035
	(.037)	(.037)	(.085)	(.037)	(.087)
Other race	.053	.041	-.028	.041	-.030
	(.062)	(.062)	(.144)	(.062)	(.144)
Black × local unemployment			-.013		-.012
			(.011)		(.011)
Hispanic × local unemployment			-.006		-.004
			(.011)		(.012)
Other race × local unemployment			.010		.011
			(.020)		(.020)
Parent no college education	.032	.005	.004	.061	.049
	(.026)	(.027)	(.027)	(.063)	(.065)
Parent no college × local unemployment				-.009	-.007
				(.009)	(.009)
Education (ref. less than high school):					
High school	-.200***	-.069*	-.068*	-.068*	-.067*
	(.029)	(.030)	(.030)	(.030)	(.030)
Some college	-.184**	.046	.046	.046	.046
	(.065)	(.066)	(.066)	(.066)	(.066)
University and above	-.334***	.016	.016	.016	.015
	(.050)	(.054)	(.054)	(.054)	(.054)
Cumulative work experience (month)	-.006***	-.000	-.000	-.000	-.000
	(.000)	(.000)	(.000)	(.000)	(.000)
Marital status (ref. never-married, not cohabiting)					
Cohabiting	.034	-.046	-.046	-.046	-.047
	(.034)	(.034)	(.035)	(.035)	(.035)
Married	-.196***	-.402***	-.404***	-.403***	-.404***
	(.038)	(.040)	(.040)	(.040)	(.040)
Separated/divorced/widowed	.046	-.044	-.046	-.044	-.046
	(.056)	(.057)	(.057)	(.057)	(.057)
Number of children	.003	-.083***	-.082***	-.082***	-.082***
	(.012)	(.013)	(.013)	(.013)	(.013)
Incarceration experience	.191**	-.008	-.007	-.007	-.007
	(.072)	(.072)	(.072)	(.072)	(.072)
Employment status (ref. in school, no job):					
In school, with a job		-1.390***	-1.391***	-1.390***	-1.391***
		(.058)	(.058)	(.058)	(.058)
Out of the labor force		.242***	.241***	.241***	.240***
		(.042)	(.042)	(.042)	(.042)
Part-time job		-.877***	-.879***	-.878***	-.880***
		(.060)	(.060)	(.060)	(.060)
Full-time job		-1.096***	-1.098***	-1.097***	-1.098***
		(.056)	(.056)	(.056)	(.056)

Occupational status		-.018***	-.018***	-.018***	-.018***
		(.002)	(.002)	(.002)	(.002)
Industry		Included	Included	Included	Included
Constant	-3.890***	-3.102***	-3.120***	-3.130***	-3.138***
	(.058)	(.064)	(.069)	(.070)	(.073)
N of observations	570,787	570,787	570,787	570,787	570,787
N of events	9765	9765	9765	9765	9765

Note: All models control for duration of exposure, duration squared, number of prior unemployment spells, region, and being in an urban area or not, but the coefficients are omitted to conserve space. The initial weights of the NLSY97 are applied to the models. Values in parentheses are robust standard errors.
*** $p < .001$, ** $p < .01$, *, $p < .05$, † $p < .1$

Table 4: Results from discrete-time hazard models predicting unemployment entry among individuals with jobs

	Men				Women			
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Local unemployment rate	.059***	.068***	.068***	.073***	.054***	.064***	.059***	.066***
	(.006)	(.008)	(.009)	(.010)	(.007)	(.009)	(.009)	(.010)
Race-ethnicity (ref. white)								
Black	.049	.254*	.047	.241*	.206***	.405***	.206***	.398***
	(.041)	(.101)	(.041)	(.102)	(.047)	(.106)	(.047)	(.108)
Hispanic	-.105*	.049	-.105*	.029	-.106*	-.028	-.105*	-.036
	(.046)	(.105)	(.046)	(.108)	(.053)	(.119)	(.053)	(.122)
Other race	-.106	-.133	-.107	-.127	-.162+	.014	-.162+	.012
	(.088)	(.211)	(.088)	(.211)	(.094)	(.219)	(.094)	(.219)
Black × local unemployment		-.032*		-.030*		-.032*		-.031+
		(.014)		(.015)		(.016)		(.016)
Hispanic × local unemployment		-.023+		-.020		-.012		-.011
		(.014)		(.015)		(.016)		(.016)
Other race × local unemployment		.004		.003		-.027		-.026
		(.029)		(.029)		(.030)		(.030)
Parent no college education	.124***	.122***	.226**	.194*	-.029	-.029	.029	.000
	(.033)	(.033)	(.081)	(.083)	(.038)	(.038)	(.087)	(.091)
Parent no college × local unemployment			-.016	-.011			-.009	-.005
			(.011)	(.012)			(.012)	(.013)
Constant	-4.700***	-4.756***	-4.754***	-4.790***	-4.601***	-4.658***	-4.628***	-4.669***
	(.086)	(.092)	(.095)	(.098)	(.094)	(.101)	(.101)	(.105)
N of Observations	466,033	466,033	466,033	466,033	447,286	447,286	447,286	447,286
N of events	5595	5595	5595	5595	4705	4705	4705	4705

Note: All models control for duration of exposure, duration squared, number of prior unemployment spells, educational level, marital status, number of children, incarceration experience, current employment status, occupational status, industry, region, and being in an urban area or not, but the coefficients are omitted to conserve space. The initial weights of the NLSY97 are applied to the models. Values in parentheses are robust standard errors.
*** $p < .001$, ** $p < .01$, *, $p < .05$, † $p < .1$

Table 5: Discrete-time hazard models predicting recovery from unemployment by gender

	Men				Women			
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Local unemployment rate	-.071***	-.065***	-.084***	-.078***	-.049***	-.042***	-.049***	-.042***
	(.006)	(.008)	(.009)	(.010)	(.006)	(.009)	(.009)	(.010)
Race-ethnicity (ref. white):								
Black	-.283***	-.062	-.281***	-.036	-.255***	-.048	-.255***	-.047
	(.036)	(.093)	(.036)	(.094)	(.037)	(.092)	(.037)	(.093)
Hispanic	-.101*	-.177+	-.100*	-.142	-.196***	-.247*	-.196***	-.246*
	(.041)	(.106)	(.041)	(.107)	(.045)	(.110)	(.045)	(.112)
Other race	-.439***	-.382+	-.438***	-.418*	-.127+	-.062	-.127+	-.063
	(.073)	(.195)	(.073)	(.197)	(.074)	(.209)	(.074)	(.209)
Black × local unemployment		-.036*		-.039**		-.034*		-.034*
		(.014)		(.014)		(.014)		(.014)
Hispanic × local unemployment		.012		.007		.007		.007
		(.015)		(.015)		(.015)		(.016)
Other race × local unemployment		-.009		-.003		-.010		-.010
		(.029)		(.030)		(.030)		(.030)
Parent no college education	-.022	-.024	-.173*	-.189*	-.058+	-.060+	-.056	-.064
	(.030)	(.030)	(.081)	(.083)	(.031)	(.031)	(.082)	(.083)
Parent no college × local unemployment			.024*	.026*			.000	.001
			(.012)	(.012)			(.012)	(.012)
Education (ref. less than high school):								
High school	.200***	.203***	.197***	.200***	.249***	.251***	.249***	.251***
	(.032)	(.032)	(.032)	(.032)	(.035)	(.035)	(.035)	(.035)
Some college	.280**	.282**	.284**	.286***	.425***	.424***	.425***	.424***
	(.086)	(.086)	(.087)	(.087)	(.077)	(.077)	(.077)	(.077)
University and above	.330***	.333***	.333***	.336***	.427***	.428***	.427***	.427***
	(.064)	(.064)	(.064)	(.064)	(.060)	(.060)	(.060)	(.060)
School enrollment	-.162***	-.162***	-.166***	-.167***	-.090*	-.088*	-.090*	-.088*
	(.037)	(.037)	(.037)	(.037)	(.037)	(.037)	(.037)	(.037)
Cumulative work experience (month)	-.000	-.000	-.000	-.000	.001*	.001*	.001*	.001*
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Marital status (ref. never-married, not cohabiting):								
Cohabiting	.200***	.199***	.197***	.196***	.009	.007	.009	.007
	(.040)	(.040)	(.040)	(.040)	(.041)	(.041)	(.041)	(.041)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Married	.203***	.201***	.200***	.198***	-.184***	-.187***	-.184***	-.187***
	(.048)	(.048)	(.048)	(.049)	(.045)	(.045)	(.045)	(.045)
Separated/divorced/widowed	-.018	-.023	-.024	-.030	-.053	-.058	-.053	-.058
	(.076)	(.076)	(.076)	(.076)	(.066)	(.066)	(.066)	(.066)
Number of children	-.067***	-.066***	-.067***	-.066***	-.144***	-.143***	-.144***	-.143***
	(.017)	(.017)	(.017)	(.017)	(.016)	(.016)	(.016)	(.016)
Receiving unemployment insurance payment	-.378***	-.381***	-.377***	-.380***	-.405***	-.406***	-.405***	-.406***
	(.048)	(.048)	(.048)	(.048)	(.053)	(.053)	(.053)	(.053)
Experience of incarceration	-.112*	-.111*	-.115*	-.114*	-.232**	-.233**	-.232**	-.233**
	(.045)	(.045)	(.045)	(.045)	(.084)	(.084)	(.084)	(.084)
Employment status of last job (ref. no last job):								
Part-time	.393***	.399***	.394***	.400***	.405***	.404***	.405***	.404***
	(.088)	(.087)	(.088)	(.087)	(.090)	(.090)	(.090)	(.090)
Full-time	.542***	.547***	.543***	.548***	.495***	.496***	.495***	.496***
	(.087)	(.087)	(.087)	(.087)	(.091)	(.091)	(.091)	(.091)
Occupational status of last job	.000	.000	.000	.000	.001	.002	.001	.002
	(.002)	(.002)	(.002)	(.002)	(.002)	(.002)	(.002)	(.002)
Industry of last job	included	Included	Included	included	Included	Included	Included	Included
Constant	-1.278***	-1.320***	-1.193***	-1.235***	-1.187***	-1.231***	-1.188***	-1.229***
	(.101)	(.107)	(.110)	(.114)	(.108)	(.115)	(.115)	(.120)
N of observations	54,923	54,923	54,923	54,923	54,281	54,281	54,281	54,281
N of events	8657	8657	8657	8657	8059	8059	8059	8059

Note: All models control for duration of exposure, duration squared, number of prior unemployment spells, region, and being in an urban area or not, but the coefficients are omitted to conserve space. The initial sampling weights of the NLSY97 are applied to the models. Values in parentheses are robust standard errors.

*** $p < .001$, ** $p < .01$, *, $p < .05$, † $p < .1$

Table 6: Summary of findings

Perspective highlighting:	Black vs. white		Hispanic vs. white		Class differences[a]	
	Entry	Recovery	Entry	Recovery	Entry	Recovery
Changing labor queues	No	Yes	No	No	No	No
Social closure and growing resistance of the privileged	No	No	No	No	No	No
Pressure from market competition	Yes	No	No	No	Somewhat	Yes
Disproportionate eliminations of jobs	Yes	--	No	--	No	--
Institutionalized and durable staffing practices	No	No	Yes	Yes	No	No

Note: "No" indicates that the regression results are inconsistent, and "yes" indicates that the results are consistent, with the respective perspective's prediction. "Somewhat" indicates that the results are partially consistent.

[a] The summary of findings for individuals from different social classes, measured by whether any of their parents has attended college, is based on the results for men, as parental educational level does not have a net effect on women's paces of entering or exiting unemployment.

Figure 1: Predicted probabilities of entering unemployment in any month for men
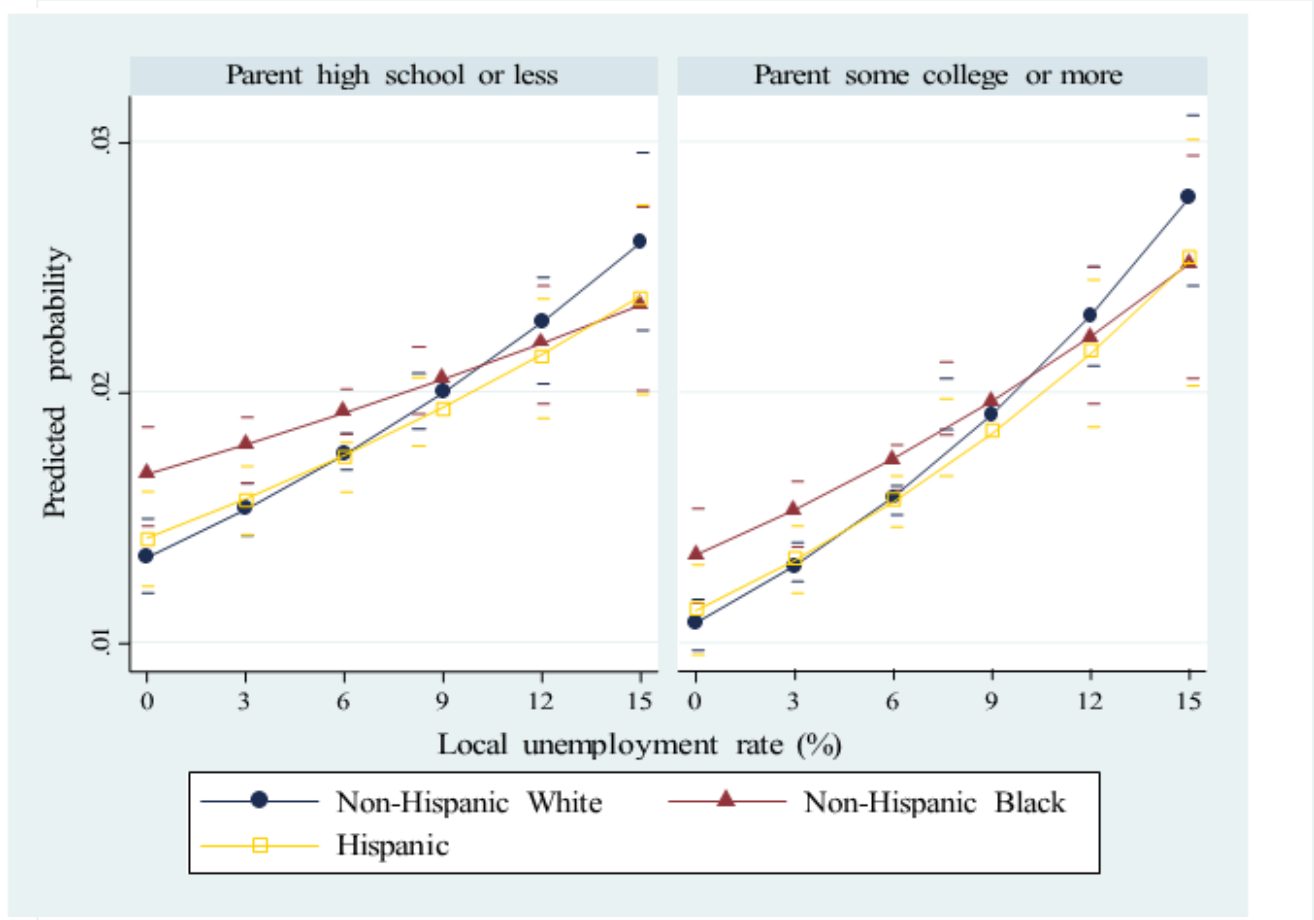
Note: The predicted probabilities are calculated based on coefficients in Model 5 in Table 3, with all variables other than race-ethnicity and parental educational level set to be equal to the sample mean.

Figure 2: Predicted probabilities of men's unemployment recovery in a given month
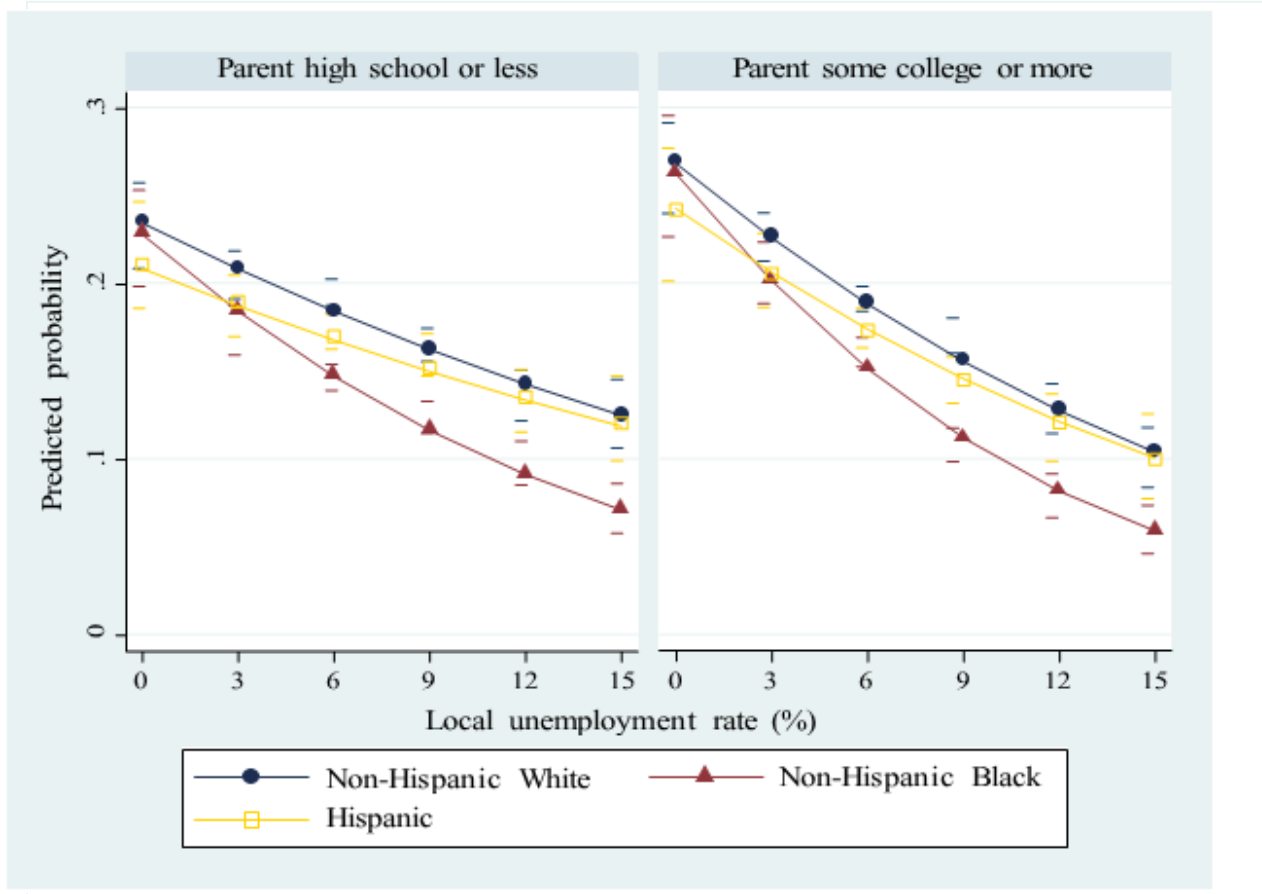
Note: The predicted probabilities are calculated based on coefficients in Model 4 for men in Table 6, with all variables other than race-ethnicity and parental educational level set to be equal to the sample mean.

Appendix

Table A1: Descriptive Statistics of the Analytical Sample

Variables	Person-months under risk for unemployment entry		Person-months under risk for unemployment recovery	
	Mean/Percentage	S.D.	Mean/percentage	S.D.
Local unemployment rate	6.3	2.5	6.6	2.6
Race-ethnicity (%):				
White	68.5		54.6	
Black	14.5		26.8	
Hispanic	12.4		13.5	
Other race-ethnicity	4.6		5.1	
Parent no college education (%)	42.9		54.9	
Education (%):				
Less than high school	19.8		37.6	
High school	54.4		50.3	
Some college	5.8		3.4	
University and above	19.9		8.7	
Cumulative work experience	82.9	52.2	55.5	43.8
Marital status (%):				
Never-married, not cohabiting	53.6		60.5	
Cohabiting	15.2		16.2	
Married	26.6		17.0	
Separated/divorced/widowed	4.6		6.3	
Number of children	.7	1.1	.9	1.2
Current employment status (%):				
In school, no job	6.4		--	
In school, with a job	17.7		--	
Out of the labor force	11.3		--	
Part-time job	12.6		--	
Full-time job	52.2		--	
School enrollment (%)	--		20.8	
Employment status of last job (%):				
Never had a job	--		4.2	
Part-time job	--		39.8	
Full-time job	--		56.0	
Incarceration experience (%)	4.7		9.3	
Receiving unemployment insurance payments (%)	--		12.0	
Region (%):				
Northeast	16.9		15.9	
North central	25.5		23.5	
South	35.9		40.0	
West	21.6		20.6	
Urban area (%)	78.2		78.2	
Duration of exposure (months)	54.6	48.0	7.7	10.9
Number of prior unemployment spells	2.0	2.2	3.2	2.8
Occupational status of current/last job[a]	34.8	13.5	28.0	10.2

Industry of current/last job (%):[a]

Agriculture/Forestry/Fishing/Hunting	1.0	.9
Mining	.5	.2
Utilities	.4	.2
Construction	7.0	8.8
Manufacturing - Nondurable Goods	2.7	3.2
Manufacturing - Durable Goods	4.5	5.0
Wholesale trade	2.3	2.1
Retail trade	15.2	17.7
Transportation and warehousing	2.8	2.7
Information and communication	2.3	2.1
Finance, insurance, real estate and leasing	6.2	4.1
Professional, scientific, administrative services	10.7	13.3
Educational and social services	10.6	6.4
Health care	8.4	5.9
Arts, entertainment and food services	15.4	20.6
Other services	5.3	5.1
Public administration and armed forces	2.9	1.1
Other	1.9	.5
N of observations	1,118,689	109,204

Note: Values for categorical variables are in percent (with "%" following the variable labels). The mean values, followed by standard deviations the next column, are presented for all other variables. All the descriptive statistics are weighted by the NLSY97's longitudinal sample weights.

[a] Only person-months with a current or last job are included in the calculation of the descriptive statistics.