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Job Change and Job Stability among Less-Skilled Young Workers

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Abstract

In this paper we review evidence from previous studies of job and employment instability among less-educated young workers, and we provide new evidence from the National Longitudinal Survey of Youth. We find that early employment instability contributes somewhat to the low levels of employment observed among high school dropouts, especially females. Important determinants of job stability include the cognitive skills of the workers themselves (as measured by math test scores), current or previous experience and job tenure, and a variety of job characteristics including starting wages, occupation, and industry. Job instability among female dropouts seems to be strongly related to fertility history and marital status. Some implications for policy, especially welfare reform, are discussed as well.

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I. INTRODUCTION

To what extent does job or employment instability contribute to the problems of less-skilled workers in the labor market? For which skill groups is job instability most severe? What factors are associated with such instability, both among and within demographic groups?

Labor economists and policymakers have long been interested in these questions, and a significant body of research has emerged over the years on these topics. But changes in the labor market for less-skilled workers over the past few decades raise new concerns about these questions. For one thing, inequality has grown rapidly between skill groups over the past few decades, while real wages of the less-skilled (especially among men) have apparently declined.¹ Furthermore, employment rates among less-skilled men have declined in association with these wage losses (Juhn, 1992; Murphy and Topel, 1997), while employment rates of less-educated women have improved less rapidly than those of more-educated women (Blau, 1998). We clearly need to determine the extent to which job or employment instability contributes to the widening gaps in employment rates between the more- and less-educated and the degree to which enhanced job stability might help to improve the employment prospects and the real wages of these workers.

Interest in these questions also has been stimulated by the recent enactment of federal welfare reform legislation designed to increase the participation of less-educated women in the labor market. Some observers (e.g., McMurrer, Sawhill, and Lerman, 1997; Holzer, 1998b) have expressed concern that job turnover, perhaps associated with child care/transportation and work-performance problems, will limit the earnings of welfare recipients as they enter the labor market, as well as their potential for wage growth over time. To what extent is job turnover a particular problem for less-educated females, and

¹Of course, the existence and extent of real wage loss for these groups depends on the extent to which price increases over time are overstated by the Consumer Price Index or other deflators.

what factors are associated with these problems? Are they more severe for some parts of this population, such as minorities, than others? And are there policy approaches, such as providing early work experience or child care, that can help to remedy these problems once they have appeared?

In this paper, we hope to shed some light on the determinants of job change and job stability among less-educated workers.² We begin by reviewing the existing literature on these issues, identifying recent additions to, as well as persistent gaps in, our knowledge. We then present some new evidence on this topic, using data from the work history files of the National Longitudinal Survey of Youth (NLSY79).

In particular, we present summary data on transitions out of and into employment by education, race, and/or gender. These data establish the extent to which job leaving and/or job loss account for the employment problems of different demographic and skill groups. We then present summary data on job changes among these groups. We separately consider transitions from one job to another as well as from a job to nonemployment, and voluntary versus involuntary transitions. We also focus on other measures of skill besides educational attainment, such as scores on different components of the Armed Forces Qualification Test (AFQT).

After presenting the summary data on transitions, we present hazard rates for these groups and how they vary with job tenure. Since the work history files of the NLSY79 provide us with employment data on a weekly basis, we can estimate hazards on such a basis and determine whether jobs stabilize more quickly for some groups than for others. Finally, we present the results of estimated logit models for transition rates from jobs and focus on a variety of covariates that seem to affect these rates. The roles of various personal and family background characteristics, earlier employment history, and

²The *effects* of job instability and employment losses on the wages of less-skilled workers are analyzed by Taber and Gladden (1998).

characteristics of jobs attained are all considered here. We close with a review of our findings and some discussion of their policy implications.

II. PREVIOUS EMPIRICAL LITERATURE ON JOB CHANGE AND STABILITY

Over the years, a number of empirical findings have emerged regarding job change and job stability across various groups of workers, especially by race, gender, age/experience, and educational attainment. For instance, it is well known that job separations decline with labor market experience and/or job tenure (e.g., Leighton and Mincer, 1982; Farber, 1998), though this appears to be somewhat less true among low-income young black males (Ballen and Freeman, 1986).

Average separation rates from jobs differ systematically among demographic groups. For instance, employment and job instability appear to be higher among women, minorities, and the less-educated than their correlative groups (Parsons, 1986; Farber, 1998), but these differences by race and gender disappear or even are reversed when controls are included for observable differences in personal or job characteristics (e.g., Light and Ureta, 1992). Voluntary separation rates are particularly lower among blacks when these controls are included (e.g., Blau and Kahn, 1981), though layoffs and discharges are still higher for them (Jackson and Montgomery, 1986; Ferguson and Filer, 1986).

By contrast, differences in turnover by level of educational attainment persist within each gender or race group, especially among females (Light and Ureta, 1992). The differences among these groups become even clearer when we distinguish *job-to-job* transitions from *job-to-nonemployment* transitions. In particular, the kinds of job-to-job changes that have potentially positive effects on the earnings of young workers (e.g., Topel and Ward, 1992) are relatively infrequent among young, less-educated women, while job-to-nonemployment changes occur much more frequently among this group (Royalty, 1998).

To what extent are the employment problems of less-skilled and particularly minority workers accounted for by their higher employment instability (or transitions *out of* employment), as opposed to longer nonemployment spells (or lower transitions *into* employment)? The work of Clark and Summers (1982) and Ballen and Freeman (1986) indicated that the latter accounted for most of the differences in employment rates across racial groups, suggesting that employment instability was not as great a concern for this group as was the difficulty of reentering employment once it was gone.³ But all of this work was performed on data from two or more decades ago, and little of it focused on differences in employment rates between the more-skilled and less-skilled per se.

More recent studies by Juhn, Murphy, and Topel (1991) and by Murphy and Topel (1997) also suggest that recent declines in employment rates among less-educated (or low-wage) men largely reflect increasingly lengthy durations of nonemployment and nonparticipation in the labor force, though the potential role of employment instability was not considered in this work. Thus, the extent to which employment instability contributes to the lower overall employment rates of less-skilled workers of any race or gender has not been analyzed explicitly in any of these studies.

What do we know about the labor market consequences of these lower employment rates over time among less-skilled workers? Although it is well known that some degree of job change has positive effects on the earnings of young workers (Topel and Ward, 1992), it has also become increasingly apparent that early nonemployment among some groups of young workers leads to significant losses in earnings over time because their general labor market experience and tenure are reduced. This appears to be true for both blacks and whites (Bratsberg and Terrell, 1998), for women as well as men (Light and Ureta, 1995), and among the less-educated (Taber and Gladden, 1998).

³This issue also boils down to one of *incidence* versus *duration* of nonemployment, and racial differences in the latter seem to account for most of the racial differences in employment rates. For more evidence on these issues see Holzer (1986, 1994).

The extent to which early nonemployment generates later nonemployment (as opposed to lower wages), especially once unobserved heterogeneity is accounted for, was questioned in some important older papers (e.g., Ellwood, 1982; Meyer and Wise, 1982). However, more recent research evidence (e.g., Neumark, 1997; Rich, 1994) calls these findings into question.⁴ Furthermore, the growing tendency of low wages to be associated with lower employment rates further suggests an indirect mechanism through which early employment losses might persist over time, and one that might matter more now than a few decades earlier.

A few other findings in this literature are noteworthy as well. Farber (1994) finds that tenure of the most recent job has a stronger effect on job changes than does earlier employment experience. While Ballen and Freeman (1986) suggest that these previous experiences do not necessarily improve over time among black youth. Ham and LaLonde (1996) find that a year of employment in the National Supported Work program raised subsequent employment durations among very low-income adult women. Thus, the extent to which some early employment experience, even if it is in the public sector, provides returns in terms of subsequent private sector job stability remains unclear. Furthermore, the effects of past or current *job* characteristics on employment stability, controlling for personal characteristics, remain unclear as well (e.g., Brown, 1982; Ferguson and Filer, 1986). It might be the case that access to “good” jobs, rather than any employment at all, determines employment stability to a greater extent.

Also, marital status and presence of children continue to be important determinants in many studies of employment stability and/or wages among women, and need to be considered as well.⁵ Finally, it is noteworthy that, despite the growing interest recently in earnings returns to cognitive skills,

⁴The papers by Meyer and Wise (1982) and Ellwood (1982) primarily used the older NLS data and relied on fixed-effects techniques to deal with unobserved heterogeneity. In contrast, the papers by Rich (1994) and Neumark (1997) use instrumental variables based on local labor market conditions to generate their findings.

⁵Light and Ureta (1995) demonstrate that both of these variables generally reduce employment durations among women but raise them among men. Waldfogel (1998) reports similar findings for wages more generally.

independent of educational attainment, we know of no analysis to date of their relation to employment stability.⁶

Thus, we find a need to update important parts of the previous literature on employment stability among less-skilled workers, particularly in light of the major changes that have occurred in labor markets for these workers. More attention needs to be placed on less-skilled workers more generally; this group can be identified on the basis of academic achievement through test scores as well as educational attainment. And other determinants of employment stability—such as job characteristics, previous employment experiences, and family status—need to be considered as well.

III. DATA AND SUMMARY STATISTICS

As noted above, we use data from the NLSY79 to analyze job and employment stability. This data set consists of a sample of over 12,000 individuals aged 14–21 in 1979. To be included in our sample, respondents had to be interviewed in 1994, have complete job histories during the years that they were scheduled to be interviewed, and have been employed at least once between 1978 and 1993. Accordingly, our sample contains the job histories of respondents through the 1994 wave of the survey, and the statistics we present are weighted according to the sample weights given in that year. We limit our analysis to jobs that are held only when the respondent was not enrolled full-time in school.

The NLSY79 public use file contains a Work History file that provides information on each weekly activity over the preceding year. It also contains information on up to five jobs a year, providing the week the job started (and perhaps ended), whether the job continued from the previous year or into the next, and usual weekly hours worked on each. It also provides information on occupation, industry,

⁶Murnane, Levy, and Willett (1995) show that such returns have grown over time and that they may also grow with experience. Neal and Johnson (1996) find important effects of these measures of skill on black-white wage differences, while Rivera-Batiz (1992) finds effects on relative employment rates as well. Pavetti (1997) also shows fairly large differences in employment rates among women with different levels of AFQT scores.

and wage level on the job, as well as why it might have ended. We use all of this information in our computations below.

As noted above, we focus on job-to-job transitions as well as job-to-nonemployment transitions, following Royalty (1998). We distinguish between voluntary and involuntary separations in many cases. However, following Farber (1998), we analyze transitions at the *weekly* rather than monthly or annual level. This allows us to examine the well-documented nonlinearity in hazards during the very early period of a job, since the probability of leaving increases within the first 3 or 4 months before declining sharply thereafter. For cases in which employers use probationary periods (either formally or informally) of a few weeks or months before committing to employing workers for longer periods, such nonlinearities should be expected. By analyzing job transitions at the weekly level, we can examine the determinants of instability during the early phase of the job.

Our primary focus in this paper is on the stability of *regular* jobs during the first 18 months of the job. We define regular jobs as those in which respondents worked at least 30 hours per week. However, in circumstances where the respondent worked in a part-time job that did not overlap with a regular job, we also include those spells in our analysis. In some cases these part-time jobs became full-time jobs. We discarded jobs that were already in progress (i.e., left-censored spells) prior to January 1978.

When several jobs were held at the same time, we chose the job with the longest duration as the regular job, as long as the respondent usually worked full-time for some period during that job spell. Thus a job that started as a part-time job, in which the respondent reported usually working less than 30 hours, but became a full-time job in a subsequent interview would be considered a regular job from the date that job began as a part-time job until the employee's relationship with the employer was severed. Accordingly, we measured duration of this job from the time it began as a part-time job. However, because some jobs began as part-time jobs and then became a full-time jobs, we created a variable

indicating whether the regular job was once a part-time job. We kept track of employment in other jobs during this regular job spell with a variable indicating whether the respondent held two or more jobs during the current week.

A. The Work Experience of Young Adults

We begin our analysis of the data by examining some results from recent panels of the NLSY79 on the employment experiences of workers in their late twenties or thirties, and how these compare with results for this same cohort of workers when they were in their early to mid-twenties several years earlier. Such a comparison can at least suggest the extent to which the stability of new jobs bears on the employment experience that youths and young adults accumulate during their careers, and the extent to which their early experiences manifest a pattern that continues to hold as these individuals approach middle age.

Table 1 presents data on the percentage of overall time between 1991 and 1995 during which workers were employed. The workers were aged 31 through 38 as of 1995 (or 27 through 38 over the entire period).⁷ Results are disaggregated by the educational attainment of the individual, separately by gender and race. The results indicate that the percentage of time spent employed varies considerably by education, race, and gender. Within each race/gender group, the least educated work the least frequently. Among white males, college graduates work roughly 95 percent of the time and high school dropouts only 75 percent of the time during the 5-year period. These data thus reflect the trend toward lower labor force participation among less-educated men that has been documented frequently in recent years (e.g., Juhn, Murphy, and Topel, 1991). But among the other demographic groups, the difference between the participation rates of the most and least educated are even larger than for males. Indeed, female and black high school dropouts each worked less than half of the time. Moreover, consistent with recent evidence

⁷These results are reproduced from U.S. Department of Labor (1998).

TABLE 1
Time Spent Employed by Skill Level
 (percentage of weeks employed 1991–1995 by individuals aged 31–38 in 1995)

	Men	Women	Whites	Blacks
Less than H.S. diploma	75.2%	48.8%	68.8%	48.2%
GED	76.5%	61.5%	74.4%	57.3%
H.S. diploma	88.3%	69.8%	81.0%	71.1%
Some college	88.0%	76.1%	82.6%	77.6%
College graduate	95.4%	81.1%	88.2%	90.9%

Source: U.S. Department of Labor (1998), Table 2.

regarding the equivalence of a high school diploma and a GED, individuals with only a GED participated substantially less in the work force than those with a high school diploma (Cameron and Heckman, 1993). Among males, participation rates of high school dropouts and those with a GED were nearly the same, though women with a GED worked considerably more than high school dropouts.

In Table 2, we examine these individuals earlier in their life cycle, at ages 23 through 27. We present these data by gender and education, and on percentage of time employed, in the military, out of the labor force, and unemployed. Overall, we find qualitatively similar relationships between educational attainment and employment experience to what we found in the Table 1. Specifically, male high school dropouts between the ages of 23 and 27 reported working about 70 percent of the time during this 5-year period—just a bit less time than time spent working in their later years. High school dropouts were employed for nearly as many weeks as high school graduates, but the latter group spent a much larger share of their nonemployed time in the military, whereas the former spent it almost exclusively being unemployed or out of the labor force. The changing skill composition of the military over the past few decades may help to account for much of the diverging employment experiences of male high school dropouts and graduates during this period.

The corresponding figures for young adult females are substantially more varied among the educational groupings than are those of males. Female college graduates accumulated approximately the same amount of work experience during their early to mid-twenties as male college graduates. Time spent either unemployed or out of the labor force also is similar. However, as we turn to increasingly less-educated groups, we find that the time spent employed during this period drops sharply and is approximately offset by a rise in the percentage of time spent out of the labor force. Indeed, female high school dropouts were employed only about one-third of the time during their early to mid-twenties.

Among females, a natural explanation for these differences in participation rates involves differences in childbearing patterns, since less-educated women's first births occur earlier than those of

TABLE 2
Time Spent in the Labor Force by Young Adults
(during 5-year span between ages 23 and 27)

Demographic Group (Gender/Education)	Labor Market Status (Percentage of Weeks in State during 5-Year Time Span)			
	Employed	Military	OLF	Unemployed
Males				
High school dropout	75.8%	0.0%	11.9%	12.2%
High school graduate	80.6	5.1	6.8	7.4
Some postsecondary (no schooling after age 22)	83.4	8.1	4.1	4.4
College graduate (no schooling after age 22)	88.1	3.5	5.2	3.2
Attends college after age 22	74.0	4.9	16.3	4.8
Females				
High school dropout	36.8	0.0	55.9	7.3
High school graduate	65.4	0.4	29.2	5.1
Some postsecondary (no schooling after age 22)	76.8	0.8	18.5	3.8
College graduate (no schooling after age 22)	86.2	0.8	9.9	3.1
Attends college after age 22	77.4	1.1	17.7	3.7

Notes: Authors calculations from NLSY; sample size is 9,295 observations. Observations are weighted using sample weights. Individuals in the sample must have birth years between 1957 and 1964 and a complete job history covering the 5-year period between ages 23 and 27. “OLF” is defined as out of the labor force and not serving in the armed forces. The “College graduate” category includes only those who do not acquire any additional postsecondary schooling after age 22. “Attends college after age 22” refers to persons with at least some postsecondary schooling by age 22 and who also report attending school between ages 23 and 27.

more-educated women (e.g., Geronimus and Korenman, 1993). However, by comparing Tables 1 and 2, we see that the low participation rates of less-educated females early in their careers cannot be fully explained by timing of births. The less-educated work markedly less than their better-educated counterparts, even as they age into the part of the life cycle in which births among more-educated women are relatively more likely. The substantial persistence of their low employment rates even into nonchildbearing years might reflect other costs associated with their early childbearing (such as child care costs, lost work experience, welfare dependence, etc.) or other factors that relate primarily to their low skills.⁸

B. The Transition Rates into and out of Employment by Youths and Young Adults

Less-skilled young adults exhibit less attachment to the employed workforce than other workers do, and this pattern is maintained as they mature. This lack of attachment appears to be a barrier to future employment and to the acquisition of productivity/wage-enhancing on-the-job training, as we noted above. By definition, the probability of being employed in any period is determined by an individual's or a group's transition rate from nonemployment to employment (p_{ne}) and the transition rate from employment to nonemployment (p_{en}).⁹ The latter reflects the *frequency* or *incidence* of spells of nonemployment, which will reflect employment instability, while the former reflects the average *durations* of these spells.

To illustrate the importance of these two transition rates in explaining the difference in employment rates among educational groups, we follow Ballen and Freeman (1986) and compute the respective fraction of employment and nonemployment spells that end during any period—which, in our

⁸The extent to which the low educational attainment and employment experience actually result from early childbearing has been the subject of much controversy—e.g., Geronimus and Korenman (1993), Bronars and Grogger (1994), and Lundberg and Plotnick (1990).

⁹More formally, we note that $p_{e,t}$, the probability of being employed in period t , equals $p_{e,t-1} * (1 - p_{en}) + (1 - p_{e,t-1}) * p_{ne}$. In steady state, the employment rate equals $p_{ne} / (p_{ne} + p_{en})$.

case, is weekly. These results appear in Table 3.¹⁰ Our computations indicate that a larger portion of the difference in participation rates by race and gender results from differences in transition rates from nonemployment to employment, while differences in transitions out of employment are relatively minor. This finding is consistent with Ballen and Freeman's results using the NLSY79 and the National Bureau of Economic Research's Inner-City Youth Survey.

Across educational groups, the results are a bit more mixed. Although the low transitions rates out of nonemployment clearly explain the larger share of the gap between the employment rates of high school dropouts versus graduates, Table 3 reveals that those with low levels of education also are markedly more likely to leave employment for nonemployment. Thus, a closer examination of the causes of job and employment instability among less-skilled versus more-skilled workers appears to be in order.

C. Empirical Transition Rates from Jobs

In Table 4 we present means on transitions out of *jobs*, rather than employment more generally. Two transitions are possible from each job—from job to nonemployment and from job to job. The first transition is less likely to lead to earnings growth and is more likely among the less-skilled; it also corresponds more closely to transitions from employment to nonemployment that were considered in the previous table. By contrast, as we noted earlier, previous research suggests that the latter transition is likely associated with earnings growth and is more likely among more-skilled workers (Topel and Ward, 1992; Royalty, 1998).

We present means on overall transitions out of jobs, as well as those into nonemployment and other jobs. We also distinguish between *voluntary* and *involuntary* transitions—i.e., quits versus layoffs,

¹⁰These computations do not correspond exactly to those that follow, since these are based on the weekly employment summaries in the NLSY Work History file while the rest are based on the summaries of jobs held during each period.

TABLE 3
Transition Probabilities by Race/Gender and Education

A. Race/Gender				
	White Male	Black Male	White Female	Black Female
P_{en}	.010	.013	.012	.013
P_{ne}	.050	.027	.026	.016
B. Education				
	HS Dropouts	HS Grads	Some College	College
P_{en}	.018	.011	.009	.006
P_{ne}	.017	.034	.040	.050
C. Education by Race				
Nonblacks				
P_{en}	.018	.011	.009	.006
P_{ne}	.026	.036	.043	.049
Blacks				
P_{en}	.020	.013	.009	.005
P_{ne}	.014	.024	.030	.051

Note: P_{en} and P_{ne} represent the weekly probabilities of transition from employment to nonemployment and from nonemployment to employment, respectively.

TABLE 4
Job Transitions by Gender and Skill

Type of Job-Ending	LHS		HS		SC		COL	
	Males	Females	Males	Females	Males	Females	Males	Females
Any job transition	0.0238	0.0281	0.0209	0.0195	0.0211	0.0182	0.0202	0.0185
Involuntary	0.0151	0.0150	0.0130	0.0109	0.0128	0.0103	0.0127	0.0113
Voluntary	0.0079	0.0123	0.0073	0.0081	0.0079	0.0075	0.0069	0.0068
Job-to-job transition	0.0063	0.0048	0.0065	0.0045	0.0626	0.0045	0.0041	0.0040
Involuntary	0.0031	0.0021	0.0032	0.0020	0.0031	0.0021	0.0019	0.0019
Voluntary	0.0031	0.0026	0.0032	0.0024	0.0032	0.0023	0.0021	0.0020
Job-to-nonemployment transition	0.0174	0.0233	0.0144	0.0150	0.0148	0.0137	0.0161	0.0145
Involuntary	0.0119	0.0128	0.0098	0.0088	0.0097	0.0081	0.0108	0.0094
Voluntary	0.0048	0.0097	0.0041	0.0057	0.0047	0.0052	0.0048	0.0048

	Mscore1		Mscore2		Mscore3		Mscore4	
	Males	Females	Males	Females	Males	Females	Males	Females
Any job transition	0.0239	0.0223	0.0226	0.0220	0.0214	0.0197	0.0192	0.0174
Involuntary	0.0146	0.0119	0.0145	0.0122	0.0131	0.0110	0.0122	0.0107
Voluntary	0.0086	0.0099	0.0075	0.0093	0.0079	0.0082	0.0065	0.0063
Job-to-job transition	0.0061	0.0041	0.0067	0.0047	0.0063	0.0049	0.0048	0.0039
Involuntary	0.0029	0.0017	0.0034	0.0022	0.0030	0.0022	0.0025	0.0019
Voluntary	0.0032	0.0024	0.0032	0.0025	0.0033	0.0025	0.0023	0.0019
Job-to-nonemployment transition	0.0178	0.0182	0.0159	0.0172	0.0151	0.0148	0.0144	0.0135
Involuntary	0.0117	0.0102	0.0110	0.0100	0.0101	0.0088	0.0098	0.0088
Voluntary	0.0054	0.0075	0.0043	0.0067	0.0046	0.0056	0.0042	0.0044

Note: “LHS,” “HS,” “SC,” and “COL” refer to high school dropouts, graduates, those with some college, and college graduates, respectively. Mscores 1–4 refer to the lowest to highest quantities for math scores on the AFQT.

discharges, etc. The results appear separately by gender and also by educational attainment and quartile of the AFQT math test score distribution.

The results of Table 4 show that the weekly probability of a transition out of a job averages about 2 percent for our sample. This transition probability is a bit higher than that observed by Royalty (1998), likely because of differences in our samples and definitions of transitions, but they are fairly comparable to those observed by Farber (1998).¹¹ Overall, transition rates do not vary greatly by gender, though we see somewhat more transitions into nonemployment for women in the less-educated groups (as did Royalty). Voluntary transitions into nonemployment are higher for women in particular, consistent with the notion that many are leaving jobs for reasons related to childbearing or childrearing. Involuntary transitions are generally higher among men. Transition rates, especially into nonemployment, also vary by education level within both genders; *high school dropouts are especially likely to leave jobs and become nonemployed*.¹² Similar patterns also appear across math test score quartiles.¹³

To see the extent to which these transitions vary with tenure on the job, we present weekly Kaplan-Meier hazard rates in Figures 1 through 3 for roughly the first 18 months in the job. We present these hazard rates separately by gender and education (i.e., high school dropouts versus all other educational categories). We also present them separately for transitions into nonemployment and transitions into other jobs.

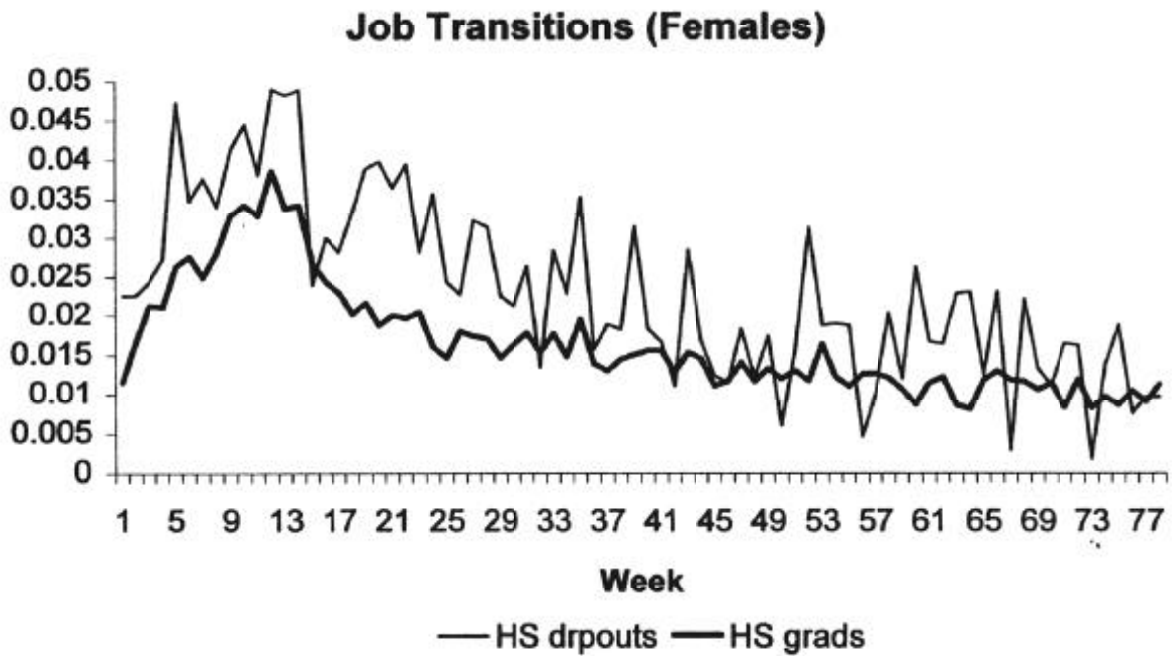
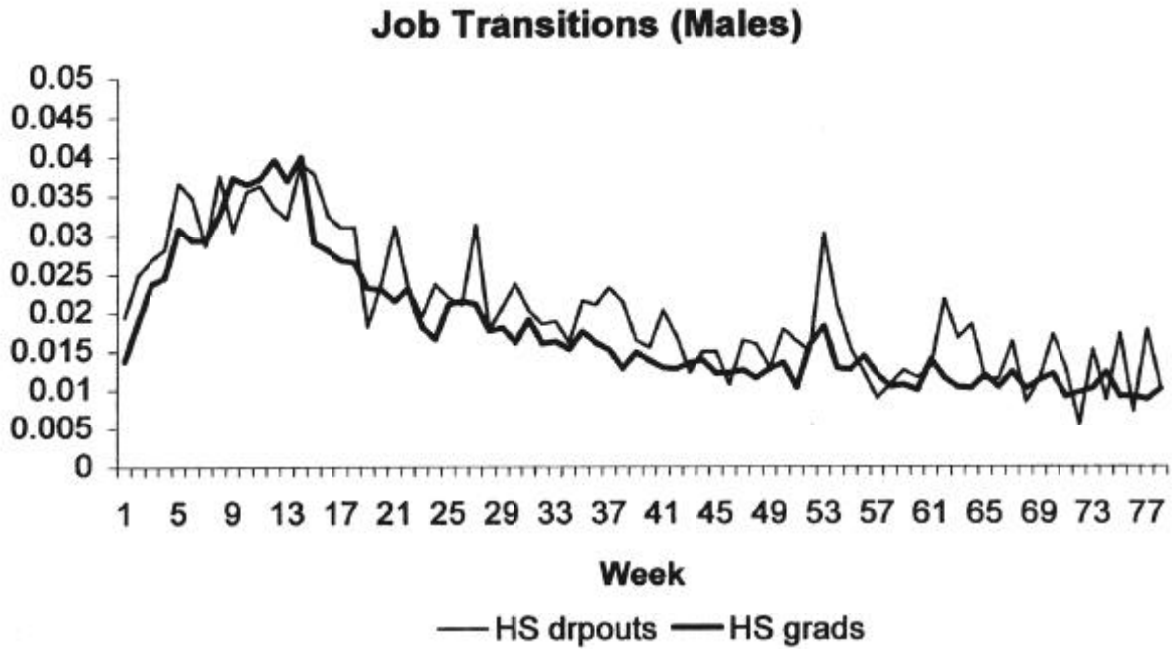
Overall, the pattern of transition rates from new jobs in our sample corresponds to the familiar pattern depicted elsewhere in the literature (e.g., Farber, 1998, Figure 5). For every demographic group,

¹¹Royalty's sample included only those aged 22 and above; our younger sample no doubt generates more job transitions. In addition, she defines a transition as being into nonemployment only if the spell lasts 4 or more weeks; thus, she counts more transitions as job-to-job and fewer as job-to-nonemployment than we do.

¹²Transition rates in Table 4 do not vary greatly across educational categories of a high school diploma or more. However, when we limit the sample to those aged 22 and above, somewhat greater differences appear, with college graduates having lower transition rates than those with some college or high school only.

¹³Results obtained when using the verbal rather than the math test score are very similar to those presented here. In all work below we focus only on the math score because it seems to be more strongly related to earnings in much of the literature (e.g., Murnane, Levy, and Willett, 1995).

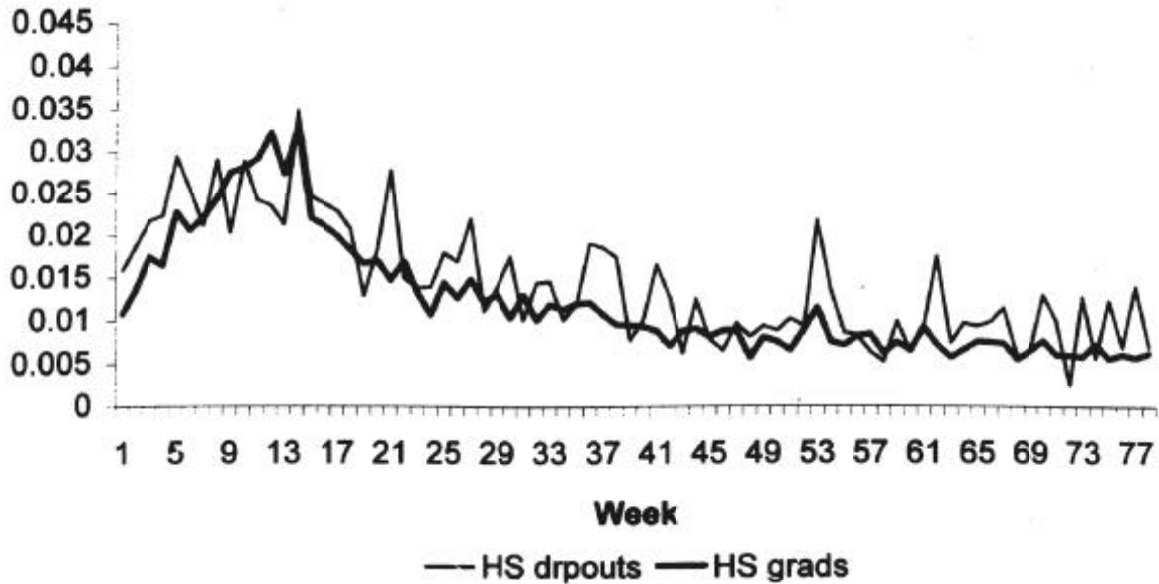
Figure 1: Overall Job Transitions By Gender and Education



Note: "HS grads" in the figure refer to all workers with high school degrees or higher.

Figure 2: Job-Nonemployment Transition By Gender and Education

Job - Nonemployment Transitions (Males)



Job - Nonemployment Transitions (Females)

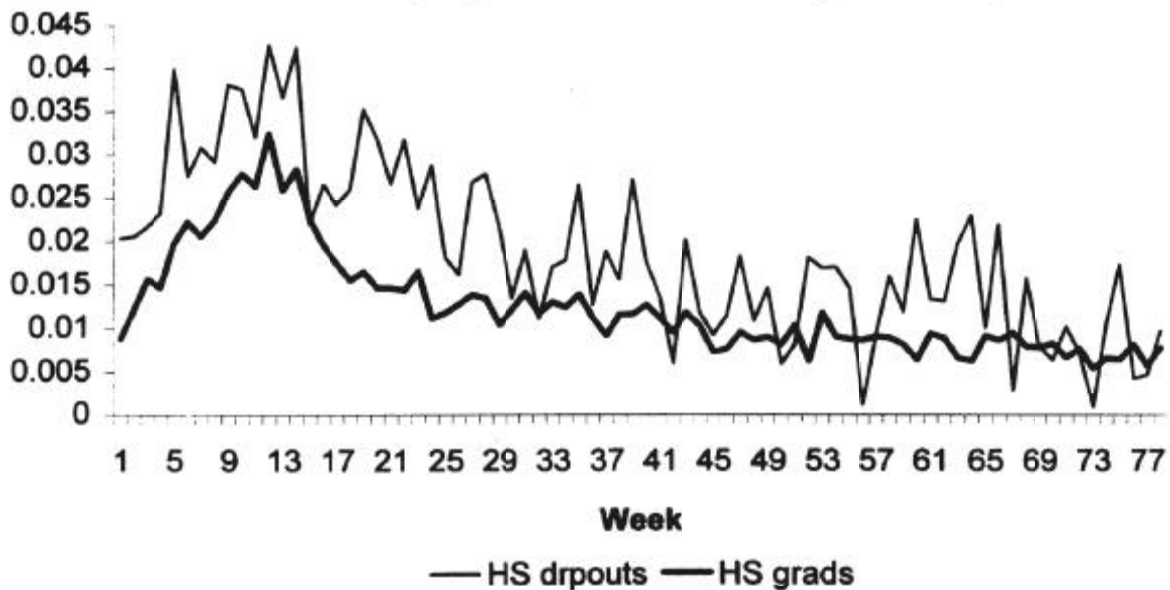
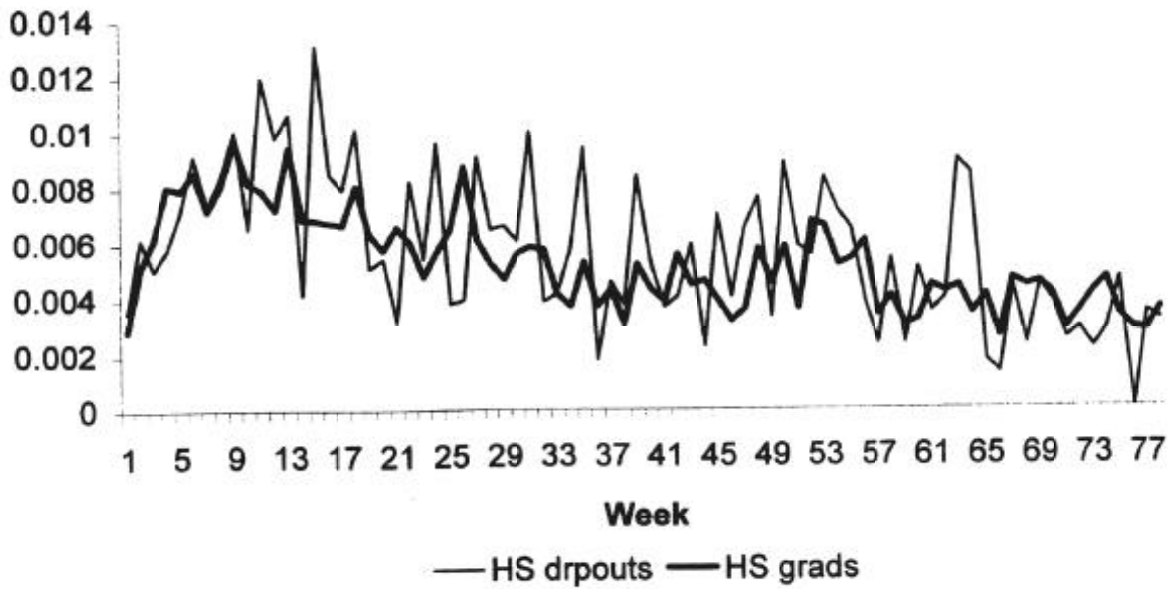
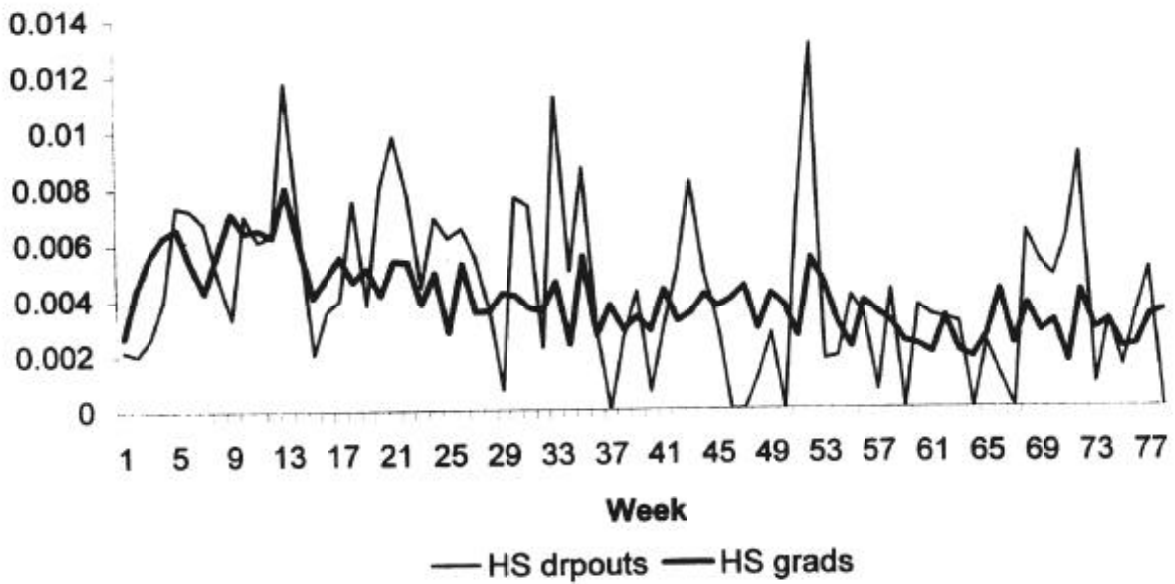


Figure 3: Job-Job Transitions By Gender and Education

Job - Job Transitions (Males)



Job - Job Transitions (Females)



the hazard rates rise during the first few weeks on the job and reach a peak after approximately 12 to 16 weeks. After this point, the hazard declines—at first sharply and then more slowly through the first 18 months of the job. This pattern is the same for all educational groups, but the hazard rates are generally higher for high school dropouts than for other workers.

The pattern of transition rates for women is similar to that of men. However, during the first 16 weeks of a job, the transition rates of the least-educated women are especially high, and they remain much higher than those of more-educated groups for much of the first year on the job. Even after 18 months, the hazard rates of women high school dropouts remain above those of their more-educated counterparts. This pattern for less-educated women suggests that at least a portion of their low participation rates can be accounted for by very high transition rates, especially during the early parts of their job spells.

Comparing Figures 2 and 3, there are differences between the patterns of transitions into jobs and into nonemployment during the first 18 months on the job. Among males, the pattern of transition rates (i.e., the initial rise and subsequent decline in hazard rates) from job to nonemployment is similar to, but much more striking than, the pattern depicted for job-to-job transitions in Figure 3. Moreover, the difference between the job-to-nonemployment transition rates of high school dropouts and other workers is clearer than that between their job-to-job transitions. Among females, the distinction between the transition rates of high school dropouts and other workers is much sharper for job-to-nonemployment than for job-to-job transitions. This finding is consistent with earlier comparisons between less-educated and highly educated male workers' annual job-to-job transition rates (e.g., Royalty, 1998, Figure 5).

IV. THE DETERMINANTS OF JOB TRANSITIONS

As we discussed in Section II, previous research has identified several variables that consistently can explain differences in job stability among individuals. In this section we present regression analyses

of the determinants of job transitions. In keeping with this paper's focus on the stability of new jobs among workers of different skill levels, we focus on how a wide range of variables can influence job stability among these different classes of workers.

To analyze the determinants of job transitions, we use the logit framework. Specifically, we let the probability that an individual leaves a job during week t be given by

$$L(t) = 1/(1 - \exp(\beta X(t) + \alpha_1 \log(t) + \alpha_2 \log(t)^2)), \quad (1)$$

where $X(t)$ is a vector of characteristics, some of which may vary with time. We model the dependence of the hazard rate on time in the spell by the log of the duration of the current spell and its square. This specification is sufficiently flexible to mimic the "duration dependence" of the hazards depicted in Figures 1 through 3.

Unfortunately, we do not control for unobserved heterogeneity in this version of the paper. Accordingly, even if this heterogeneity is uncorrelated with our observed characteristics, $X(t)$, the coefficients are biased. To some extent this heterogeneity is accounted for in our specification of the "duration dependence." However we do not intend to give the parameters in this framework any structural or "causal" interpretation. Instead, we use this framework to parsimoniously summarize some of the relations between these characteristics and the propensity to leave jobs.

Usually in a logit framework the importance of the estimated coefficients is difficult to interpret without knowing the predicted probabilities, so that the marginal effect of a characteristic on the transition rate out of employment would be given by $\beta P(1-P)$. Because the weekly transition rates are small, on the order of 0.01 to 0.03 (see Figure 1), the estimated coefficients give the approximate percentage impact on the hazard of a 1-point change in the characteristic.¹⁴

¹⁴When P is small, $P(1-P)$ approximates P , so that the percentage change in the hazard, $\partial P/P$, is given approximately by $\beta \partial X$. In other words, a 1-point change in the characteristic X raises (lowers) the hazard by β percent. For small values of P , the logit becomes arbitrarily close to a proportional hazards model.

A. Basic Model

In Table 5 we consider the relationship between individuals' skills and weekly transition rates during the first 18 months of a job. We also examine how this relationship changes when we control for a standard set of personal and job characteristics. The fixed characteristics we consider are race, a region dummy indicating whether the individual resides in the South, current industry, occupation at the start of the job, duration of the individual's last job, whether the current regular job began as a part-time job, educational attainment, and test scores. The time-varying characteristics we consider are current age and its square, actual job experience, whether the individual currently holds at least one other job, and a vector of dummy variables denoting the calendar year of the current job at time t .

We present several specifications of the model for each set of hazards. We begin by controlling only for educational attainment as a measure of skill. In the second model we add the math test score to see whether cognitive skills (presumably developed quite early in one's life) affect transitions independently of educational attainment. In the third model we add dummies for occupation and industry as well as starting pay on the job to see whether *job* characteristics matter separately from those of workers.

The results from our analysis indicate that low skills are associated with higher transition rates out of jobs. As suggested by Figures 1–3, this relation is more striking for women than for men. As shown in column 1 of Table 5, male high school dropouts are 15 percent more likely to leave a job in a given week than are males with college degrees. The transition rates out of jobs are more similar among the other educational groupings. In column 4 of the table, we see that female high school dropouts are 30 percent more likely to leave a job during a given week than are female college graduates.

As was true among males, the transition rates among the other educational groupings of females are more similar. These higher job transition rates for high school dropouts imply that the share of jobs

TABLE 5
Impact of Skill Characteristics on Transition Rates from Jobs
(coefficients from logit model)

	Males			Females		
	(1)	(2)	(3)	(4)	(5)	(6)
Skill characteristics						
H.S. dropout	0.15 (.02)	0.02 (.03)	-0.16 (.03)	0.30 (.03)	0.18 (.03)	-0.03 (.04)
H.S. graduate	0.05 (.02)	-0.05 (.02)	-0.20 (.03)	0.05 (.02)	-0.04 (.02)	-0.22 (.03)
Some college	0.07 (.02)	0.01 (.02)	-0.09 (.03)	0.04 (.02)	-0.02 (.02)	-0.15 (.03)
Math score 1st quartile	—	0.22 (.03)	0.12 (.03)	—	0.18 (.03)	0.15 (.03)
Math score 2nd quartile	—	0.15 (.02)	0.10 (.03)	—	0.18 (.03)	0.16 (.03)
Math score 3rd quartile	—	0.012 (.02)	0.09 (.02)	—	0.012 (.02)	0.11 (.02)
Other controls						
Personal characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Job characteristics	No	No	Yes	No	No	Yes

Notes: Omitted skill characteristics are college graduates and math scores in the top quartile. The personal characteristics include race, age, actual job experience, duration of last job, and whether the individual holds more than one job. Job characteristics include the log duration of the current job (and its square), industry, and controls for occupation and pay at the start of the job. The models also include controls for the calendar year of the weekly observation and whether the job began as a part-time job.

that last more than one year is approximately 5 percentage points less for male dropouts and 10 percentage points less for female dropouts than for other workers.

The effect of skill on job transitions appears to be associated with our measure of cognitive ability, the score on the mathematics portion of the AFQT. As shown by columns 2 and 5, males and females who score in the lowest quartiles of this distribution have transition rates that are roughly 20 percent higher than those who scored in the highest quartile. This relation obtains even when we hold educational attainment constant. This connection between cognitive ability (or academic achievement) and job transitions continues to hold even when we control for job characteristics. As shown in columns 3 and 6, even when we control for both educational attainment and occupation, those who scored in the lowest quartile of the distribution of math test scores had the highest transition rates. On the other hand, the estimated effects of educational attainment on transitions are eliminated or even reversed once we control for test scores and job characteristics.

The estimated coefficients on control variables in these equations appear in the Appendix, and some of these are of interest as well. We find that an individual's race does not predict differences in transition rates from jobs either for males or females. The coefficients for blacks and other racial groups are both small and statistically insignificant. The results do not change when we exclude our controls for an individual's occupation at the start of the job. This evidence indicates that once other personal and job characteristics are accounted for, a person's race is not a factor in overall job stability. However, we show below that when we distinguish between transitions to nonemployment and transitions from job to job, race has modest effects on the results.

The results also indicate that job transition rates decline sharply with age, experience, and tenure among both males and females (though the age effect for females disappears once we control for job characteristics). One way of characterizing these results is that individuals "age" into job stability during

the early phase of their careers. In the next subsection we examine whether these age and experience effects differ by skill level.

As reported by others, prior job tenure also is associated with longer durations on the current job (Farber, 1994). The estimated coefficients imply that if a man's previous job lasted 18 months instead of 6 months, the transition rate from the current job declines by approximately 17 percent; the relation between previous job tenure and current transition rates for women is similar. Of course, distinguishing true causal effects from unobserved heterogeneity in these results is particularly problematic, though Farber's results imply that at least part of this effect is truly causal.

Though these results are not included in the table, the logit results also indicate that holding more than one job is associated with slightly lower transition rates. If during the current week a holder of a regular job also holds a part-time job, the hazard rate out of the regular job is approximately 5 percent lower. From an employer's perspective, dual jobholding by employees is not associated with greater turnover during the early phase of a job.

The coefficients on the industry and occupation as well as on the starting wage indicate that these job characteristics affect turnover as well. As expected, jobs held by males in construction have higher transition rates than other jobs in the economy. Jobs in manufacturing (and, to a lesser extent, those in the transportation and utility sectors) have lower transition rates. The decline in the availability of the latter set of jobs for less-educated workers, especially black males (Bound and Holzer, 1993), may have contributed to increased job instability among these workers in recent years.¹⁵ Among occupations, despite controls for starting pay of the job, occupations with higher average pay also have significantly lower turnover rates. These differences could reflect that these jobs offer better benefits, have better amenities (Hamermesh, 1998), or provide faster wage growth. Services and laborer jobs have higher

¹⁵For evidence on the extent to which job instability has worsened among less-educated workers in recent years, see Farber (1998), Neumark, Polsky, and Hansen (1998), and Jaeger and Stevens (1998).

turnover rates among both males and females, while craft jobs and white-collar jobs are the ones with low turnover rates among men and women, respectively. Finally, the starting wage of the job has strong negative effects on transitions for both males and females. Of course, sorting out “person” from “job” effects in this type of analysis is extremely difficult, but because we control for educational attainment, test scores, experience, and tenure on the current and prior jobs, these estimates likely reflect the true effects of differences across job characteristics at least partly, rather than only the unobserved characteristics of the individuals in these jobs.

Finally, we note that the duration terms imply that, on average, the transition rate rises until approximately the 12th week of the job before declining sharply. According to the estimates, the weekly transition rates rise to approximately 3.5 percent during the 12th week of the job, decline to 2.0 percent by the 24th week of the job, and then gradually decline to 0.7 percent by the 18th month of the job.

In Table 6 we separately consider the relationship between these standard personal and job characteristics and the transition rates from jobs into nonemployment and into new jobs. We control for the same sets of characteristics that we used for the analysis presented in columns 2 and 3 (or 5 and 6) of Table 5—in other words, we present results in which we have controlled for both education and math test scores, but without and with job characteristics, respectively.

The results for this analysis indicate that our measures of cognitive ability (i.e., the math test score quartiles) are strong predictors of transitions from jobs to nonemployment but have smaller effects on transition rates between jobs. As shown in the first columns of Table 6, during the first 18 months of the job, males and females with the lowest test scores have transition rates into nonemployment that are 20 to 30 percent higher than those of their counterparts with the highest test scores. By contrast, differences in this characteristic have only a small and statistically insignificant impact on the likelihood of a job-to-job transition. The finding suggests that the higher job transition rates for less-skilled individuals result from higher job-to-nonemployment transition rates. The remaining characteristics (i.e.,

TABLE 6
Impact of Personal and Job Characteristics on Transitions from Jobs
(coefficients from logit model)

	Males				Females			
	J -> NE		J -> J		J -> NE		J -> J	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Skill characteristics								
H.S. dropout	-0.07 (0.04)	-0.22 (0.04)	0.30 (0.06)	0.04 (0.06)	0.21 (0.04)	-0.02 (0.04)	0.06 (0.08)	-0.12 (0.08)
H.S. graduate	-0.20 (0.03)	-0.33 (0.03)	0.38 (0.05)	0.16 (0.05)	-0.07 (0.03)	-0.25 (0.03)	0.03 (0.05)	-0.15 (0.05)
Some college	-0.12 (0.03)	-0.20 (0.03)	0.38 (0.05)	0.20 (0.05)	-0.07 (0.03)	-0.18 (0.03)	0.08 (0.05)	-0.06 (0.05)
Mscore1	0.30 (0.03)	0.19 (0.03)	0.02 (0.05)	-0.03 (0.05)	0.23 (0.04)	0.18 (0.04)	0.06 (0.07)	0.02 (0.07)
Mscore2	0.18 (0.03)	0.10 (0.03)	0.10 (0.05)	0.09 (0.05)	0.22 (0.03)	0.18 (0.03)	0.14 (0.05)	0.09 (0.06)
Mscore3	0.14 (0.02)	0.11 (0.03)	0.08 (0.04)	0.07 (0.04)	0.12 (0.03)	0.09 (0.03)	0.18 (0.04)	0.15 (0.05)

(table continues)

TABLE 6, continued

	Males				Females			
	J -> NE		J -> J		J -> NE		J -> J	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Other personal characteristics								
Black	0.02 (0.02)	-0.00 (0.02)	-0.10 (0.03)	-0.09 (0.03)	-0.01 (0.02)	0.01 (0.02)	0.02 (0.04)	0.05 (0.04)
Other races	-0.04 (0.04)	-0.04 (0.04)	-0.05 (0.06)	-0.05 (0.06)	-0.03 (0.04)	-0.04 (0.05)	-0.04 (0.08)	-0.03 (0.08)
Age	-0.22 (0.03)	-0.15 (0.03)	0.01 (0.05)	0.05 (0.05)	-0.14 (0.03)	-0.02 (0.03)	0.05 (0.06)	0.13 (0.06)
Age squared/100	0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)
Actual experience	-0.09 (0.01)	-0.07 (0.01)	0.05 (0.01)	0.05 (0.01)	-0.10 (0.01)	-0.07 (0.01)	0.06 (0.01)	0.08 (0.01)
Log duration prior job	-0.18 (0.01)	-0.16 (1.14)	-0.15 (0.01)	-0.13 (0.01)	-0.13 (0.01)	-0.11 (0.01)	-0.14 (0.02)	-0.12 (0.02)
Log tenure	0.98 (0.04)	0.05 (-0.22)	0.76 (0.06)	0.80 (0.06)	0.96 (0.04)	1.09 (0.05)	0.73 (0.07)	0.76 (0.08)
Log tenure squared	-0.20 (0.01)	0.01 (0.05)	-0.16 (0.01)	-0.16 (0.01)	-0.19 (0.01)	-0.20 (0.01)	-0.16 (0.02)	-0.17 (0.02)

(table continues)

TABLE 6, continued

	Males				Females			
	J -> NE		J -> J		J -> NE		J -> J	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Job characteristics								
Log wage	-0.06		-0.04		-0.08		-0.05	
	(0.00)		(0.00)		(0.06)		(0.01)	
<i>Occupation:</i>								
Sales	0.26		0.27		0.20		0.39	
	(0.05)		(0.08)		(0.05)		(0.08)	
Office and clerical	0.32		0.08		0.19		0.29	
	(0.04)		(0.07)		(0.03)		(0.06)	
Craft (skilled)	0.28		0.41		0.33		0.30	
	(0.04)		(0.06)		(0.09)		(0.15)	
Operatives	0.43		0.34		0.43		0.31	
	(0.04)		(0.06)		(0.05)		(0.09)	
Laborers	0.54		0.38		0.56		0.34	
	(0.04)		(0.06)		(0.07)		(0.13)	
Service	0.47		0.26		0.39		0.33	
	(0.04)		(0.06)		(0.04)		(0.06)	

(table continues)

TABLE 6, continued

	Males				Females			
	J -> NE		J -> J		J -> NE		J -> J	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
<i>Industry:</i>								
Agriculture/mining	-0.01 (0.05)		0.02 (0.08)		0.17 (0.09)		0.19 (0.16)	
Construction	0.27 (0.03)		0.31 (0.05)		0.23 (0.09)		0.21 (0.14)	
Manufacturing	-0.16 (0.03)		-0.14 (0.05)		-0.12 (0.04)		-0.25 (0.07)	
Transportation	-0.09 (0.05)		0.04 (0.07)		-0.01 (0.07)		-0.02 (0.12)	
Trades	-0.06 (0.03)		0.16 (0.04)		0.20 (0.02)		0.14 (0.04)	

Notes: Columns 1 and 2 in this table correspond to columns 2 and 3 (or 5 and 6) in Table 5. “J” and “NE” denote job and nonemployment, respectively.

experience, tenure, and various job characteristics) had similar effects on job-to-nonemployment transitions to what they had on all transitions.¹⁶

The relationships between the other personal or job characteristics and job-to-job transitions differ in several ways from those described above for all job transitions (and for job-to-nonemployment transitions in Table 6). First, during a given week, black males are about 10 percent less likely to leave for another job than are whites. This result suggests that job shopping might be a somewhat less important source of earnings growth among black males than it is for their white counterparts. We obtain this result even though we hold constant occupation and other characteristics at the start of the job. Second, actual experience is now positively associated with transitions instead of being negatively associated with job-to-nonemployment transitions. Third, the effects of tenure on the current job are somewhat attenuated compared to this characteristic's relation to job-to-nonemployment transitions. Finally, among males the relation between age and job-to-job transition rates also differs. Whereas there is some evidence of aging into job stability among job-to-nonemployment transitions, if anything just the opposite is true among job-to-job transitions.

B. Differences by Skill Groupings

In Table 7, we present the same specifications as in Table 6 (i.e., with and without job characteristics), but separately by educational attainment and gender. This enables us to see the extent to which duration dependence (both for the current and prior job), cognitive abilities, job characteristics, and other factors affect job stability differently for less- and more-educated workers.

The results of Table 7 show that the determinants of job transitions for high school dropouts and high school graduates are roughly the same as those described above in connection with Table 6. Our measure of cognitive ability (the math test score) continues to have a significant relation with the

¹⁶As was the case in Table 5, the effects of educational attainment on transitions are eliminated or reversed once we control for test scores and occupational characteristics.

TABLE 7
Determinants of Transition Rates out of Jobs, by Educational Attainment
(coefficients from logit specification)

	Males				Females				
	LHS		HS		LHS		HS		
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	
Personal characteristics									
Mscore1	0.25 (0.09)	0.17 (0.10)	0.34 (0.05)	0.27 (0.05)	0.18 (0.13)	0.08 (0.14)	0.42 (0.05)	0.40 (0.06)	
Mscore2	0.15 (0.09)	0.11 (0.10)	0.26 (0.05)	0.20 (0.05)	0.18 (0.13)	0.10 (0.14)	0.37 (0.05)	0.34 (0.05)	
Mscore3	0.03 (0.10)	0.06 (0.11)	0.19 (0.04)	0.16 (0.05)	0.23 (0.14)	0.12 (0.14)	0.24 (0.05)	0.23 (0.05)	
Black	-0.02 (0.05)	-0.04 (0.06)	0.00 (0.03)	-0.03 (0.03)	-0.04 (0.06)	-0.03 (0.07)	-0.02 (0.03)	-0.00 (0.03)	
Other races	0.13 (0.08)	0.11 (0.09)	-0.07 (0.06)	-0.07 (0.07)	-0.42 (0.14)	-0.40 (0.15)	-0.10 (0.07)	-0.09 (0.07)	
Age	-0.25 (0.07)	-0.20 (0.07)	-0.21 (0.04)	-0.15 (0.05)	-0.03 (0.08)	0.05 (0.09)	-0.14 (0.05)	-0.03 (0.05)	
Age squared/100	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	
Actual experience	-0.11 (0.01)	-0.10 (0.01)	-0.08 (0.01)	-0.07 (0.01)	-0.10 (0.02)	-0.10 (0.02)	-0.10 (0.01)	-0.08 (0.01)	

(table continues)

TABLE 7, continued

	Males				Females			
	LHS		HS		LHS		HS	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Log duration prior job	-0.16 (0.02)	-0.14 (0.02)	-0.19 (0.01)	-0.17 (0.01)	-0.11 (0.03)	-0.08 (0.03)	-0.14 (0.01)	-0.12 (0.01)
Log tenure	0.66 (0.09)	0.72 (0.10)	0.94 (0.06)	1.08 (0.07)	0.87 (0.12)	0.93 (0.13)	0.74 (0.06)	0.86 (0.07)
Log tenure squared	-0.16 (0.02)	-0.15 (0.02)	-0.22 (0.01)	-0.23 (0.01)	-0.20 (0.03)	-0.19 (0.03)	-0.15 (0.01)	-0.17 (0.01)
Job characteristics								
Log wage		-0.04 (0.01)		-0.04 (0.01)		-0.11 (0.02)		-0.08 (0.01)
<i>Occupation:</i>								
Sales		0.07 (0.39)		0.15 (0.12)		0.09 (0.21)		0.25 (0.09)
Office and clerical		0.35 (0.18)		0.15 (0.09)		0.26 (0.16)		0.12 (0.07)
Craft (skilled)		-0.10 (0.14)		0.04 (0.08)		0.12 (0.26)		0.31 (0.13)
Operatives		0.15 (0.14)		0.19 (0.08)		0.32 (0.18)		0.33 (0.09)

(table continues)

TABLE 7, continued

	Males				Females			
	LHS		HS		LHS		HS	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Laborers		0.23 (0.14)		0.30 (0.08)		0.48 (0.20)		0.50 (0.10)
Service		0.20 (0.15)		0.29 (0.08)		0.39 (0.15)		0.31 (0.07)
<i>Industry:</i>								
Agriculture/mining		-0.07 (0.11)		-0.04 (0.08)		0.19 (0.24)		0.21 (0.13)
Construction		0.17 (0.08)		0.19 (0.05)		0.77 (0.20)		0.18 (0.14)
Manufacturing		-0.20 (0.08)		-0.30 (0.05)		-0.09 (0.12)		-0.17 (0.07)
Transportation		-0.26 (0.13)		-0.03 (0.07)		0.52 (0.22)		-0.09 (0.12)
Trades		-0.02 (0.07)		-0.10 (0.04)		0.02 (0.07)		0.29 (0.04)

(table continues)

TABLE 7, continued

	Males				Females			
	SC		COL		SC		COL	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Personal characteristics								
Mscore1	0.21 (0.08)	0.20 (0.08)	0.23 (0.22)	-0.22 (0.24)	0.07 (0.08)	0.06 (0.08)	-0.24 (0.02)	-0.44 (0.24)
Mscore2	0.02 (0.07)	-0.04 (0.07)	0.21 (0.12)	-0.04 (0.13)	0.16 (0.06)	0.14 (0.06)	0.10 (0.09)	0.01 (0.10)
Mscore3	0.13 (0.04)	0.13 (0.05)	0.14 (0.05)	0.02 (0.05)	0.07 (0.05)	0.10 (0.05)	0.06 (0.05)	-0.04 (0.05)
Black	0.00 (0.04)	0.04 (0.05)	0.08 (0.04)	0.03 (0.04)	-0.01 (0.05)	-0.00 (0.05)	0.02 (0.04)	0.05 (0.05)
Other races	-0.12 (0.09)	-0.11 (0.10)	-0.04 (0.09)	-0.09 (0.09)	0.12 (0.09)	0.10 (0.10)	0.13 (0.08)	0.13 (0.08)
Age	-0.25 (0.06)	-0.15 (0.06)	-0.16 (0.06)	-0.05 (0.07)	-0.09 (0.06)	-0.01 (0.07)	-0.30 (0.06)	-0.08 (0.07)
Age squared/100	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)	0.01 (0.00)	0.00 (0.00)
Actual experience	-0.08 (0.01)	-0.06 (0.01)	-0.09 (0.01)	-0.09 (0.02)	-0.08 (0.01)	-0.05 (0.01)	-0.10 (0.01)	-0.07 (0.01)
Log duration prior job	-0.19 (0.02)	-0.18 (0.02)	-0.14 (0.02)	-0.10 (0.02)	-0.15 (0.02)	-0.14 (0.02)	-0.08 (0.02)	-0.06 (0.02)

(table continues)

TABLE 7, continued

	Males				Females			
	SC		COL		SC		COL	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Log tenure	0.89 (0.08)	1.02 (0.09)	1.36 (0.09)	1.70 (0.11)	0.95 (0.09)	1.07 (0.11)	1.43 (0.10)	1.68 (0.12)
Log tenure squared	-0.20 (0.02)	-0.22 (0.02)	-0.22 (0.02)	-0.26 (0.02)	-0.18 (0.02)	-0.20 (0.02)	-0.24 (0.02)	-0.27 (0.02)
Job characteristics								
Log wage		-0.06 (0.01)		-0.08 (0.01)		-0.08 (0.01)		-0.09 (0.01)
<i>Occupation:</i>								
Sales		0.20 (0.10)		0.31 (0.08)		0.13 (0.10)		0.17 (0.09)
Office and clerical		0.13 (0.09)		0.40 (0.07)		0.17 (0.07)		0.23 (0.06)
Craft (skilled)		0.18 (0.08)		0.56 (0.09)		0.39 (0.19)		0.25 (0.20)
Operatives		0.32 (0.08)		0.63 (0.08)		0.54 (0.12)		0.73 (0.13)
Laborers		0.42 (0.08)		0.74 (0.07)		0.31 (0.16)		0.91 (0.15)
Service		0.28 (0.08)		0.56 (0.07)		0.24 (0.08)		0.58 (0.06)

(table continues)

TABLE 7, continued

	Males				Females			
	SC		COL		SC		COL	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
<i>Industry:</i>								
Agriculture/mining		-0.06 (0.12)		-0.00 (0.12)		0.45 (0.22)		-0.11 (0.25)
Construction		0.32 (0.08)		0.45 (0.08)		-0.30 (0.23)		0.20 (0.20)
Manufacturing		-0.08 (0.07)		-0.00 (0.07)		-0.04 (0.09)		-0.04 (0.08)
Transportation		-0.24 (0.10)		-0.02 (0.12)		-0.27 (0.16)		0.23 (0.15)
Trades		-0.14 (0.06)		-0.06 (0.05)		0.20 (0.05)		0.09 (0.05)

Notes: Columns 1 and 2 in this table correspond to columns 2 and 3 (or 5 and 6) in Table 5. “LHS” and “HS” denote high school dropout and high school graduate, respectively. “SC” and “COL” denote some college and college graduate, respectively.

likelihood of a job transition for most groups. Age effects do not appear for female high school dropouts. But current job duration, the duration of the prior job, and actual employment experience are all strongly associated with lower transition rates out of jobs for males and females within each educational category. Of course, all of these characteristics may well be proxies for unobserved skill characteristics.

In addition, for all of the various educational groups, higher starting wages and average pay of the occupation are associated with greater job stability. We obtain this result even though we hold constant a very wide range of observable characteristics of the individuals and their work histories. During the first 18 months of a job, transition rates in managerial, technical, and crafts occupations are substantially lower than the transition rates from other occupations. Similarly, weekly transition rates from jobs in the manufacturing, transportation, communications, and public utility sectors are significantly lower than from jobs in the services sector among less-educated males and females.

C. Marital Status, Fertility, and Transitions among Less-Educated Females

The high rates of voluntary transition into nonemployment that we observe among female dropouts suggest a potentially important role for childbearing, and perhaps for marital status as well (because single mothers are disproportionately concentrated among the poor). Although a formal treatment of this issue is beyond the scope of this paper, we present some simple tabulations on transition rates by marital status and fertility history as of 1994 for females by educational attainment in Table 8.¹⁷

The results show that transition rates into nonemployment are relatively comparable between female dropouts and those with higher educational attainment among those with no children; major differences in these transition rates appear only for women who have had one or more child, especially in

¹⁷Potential endogeneities between marital status/fertility and employment history would plague any attempt to simply include measures of the former in our logit equations above. Also, relatively small sample sizes preclude us from presenting transition rates simultaneously by marital status and fertility history. For instance, among 517 female dropouts, we have just 124 women who have never been married and 43 women who have not had children as of 1994.

TABLE 8
Transition Rates into Nonemployment for Females
by Fertility History/Marital Status and Education

	HS Dropouts		All Others	
	Voluntary	Involuntary	Voluntary	Involuntary
Number of children as of 1994				
0	0.005	0.013	0.005	0.009
1	0.009	0.014	0.005	0.009
2	0.008	0.017	0.005	0.008
3+	0.013	0.014	0.007	0.010
Marital status as of 1994				
Currently married	0.008	0.012	0.005	0.008
Never married	0.010	0.015	0.005	0.010
Separated/divorced/widow	0.012	0.015	0.006	0.009

the case of voluntary transitions. Furthermore, the transition rates among dropouts are particularly high among those who have never been married and especially those who are no longer with their spouses, most of whom (in either category) have had children nonetheless. Thus, it seems quite likely that the greater employment instability among young and less-educated women is closely related to their marital status and childbearing experiences. Loss of early work experience among these women may also cause their employment difficulties to persist over time.

V. CONCLUSION

In this paper, we review evidence from previous studies of job and employment instability among less-educated young workers and provide some new evidence from the NLSY79. We separately consider evidence on job-to-job and job-to-nonemployment transitions, since the latter are less likely to generate positive outcomes (such as wage growth) among young workers. Our own evidence is based primarily on summary results and reduced-form logit equations in which we do not explicitly try to control for unobserved heterogeneity across people, so our conclusions are subject to some important caveats on this point.

Nevertheless, our results (along with the previous work that we review) suggest the following conclusions:

- Early employment instability contributes somewhat to the low levels of employment (and earnings growth) observed among high school dropouts, especially among females.
- To some extent, these problems are associated with the poor cognitive skills of these workers, rather than their weaker educational attainments per se.
- The characteristics of the jobs to which less-educated workers have access—including starting wages, occupations, and industries—seem to affect their turnover rates independently of their personal characteristics.

- Tenure in both the current and previous jobs appears to have important effects on the stability of current employment spells for all skill groups.
- Employment instability declines with age and/or general labor market experience, even for the less-educated.
- The employment instability we observe among female dropouts also appears to be correlated with childbearing and, to a lesser extent, their marital status.

Despite the somewhat tentative nature of our findings, some potential implications for public policy can be drawn from this work. On the one hand, the strong effects of educational attainment and especially of test scores on job stability imply that “premarket” human capital formation has important effects on job stability. This suggests that what goes on in homes and classrooms, perhaps relatively early in children’s lives, has important subsequent effects on their employment stability and on their labor market performance more generally (as the recent volumes by Duncan and Brooks-Gunn, 1997, and Jencks and Phillips, 1998, have stressed). On the other hand, some characteristics of the labor market for less-educated individuals, such as their ability to afford child care (for less-educated females) and their access to “good” jobs (for males or females), may also matter importantly. Early labor market experience of any type has some positive relationship to subsequent job stability, especially more stable early experience.

In light of these results, what labor market policy interventions might improve the employment stability of less-educated workers? Recent welfare reform efforts that primarily stress work requirements and incentives appear to be raising employment and general labor market experience among unskilled single mothers (Bishop, 1998; Burtless, 1998); all else equal, this added experience should help generate some improved job stability for these individuals over time. On the other hand, many of these jobs appear to be characterized by high turnover and low wages and benefits, and the least-skilled recipients may face

difficulty being hired at all, especially in periods or areas of slackened labor market demand (Holzer, 1998b).

Thus, the ability of work incentives and requirements alone to generate stable employment over time for very unskilled welfare recipients will likely be quite modest. In such a case, policymakers may need to consider other labor market interventions that might provide unskilled workers with more stable employment experiences and perhaps better access to jobs characterized by lower rates of turnover. For instance, the National Support Work (NSW) Demonstration was one of the earliest attempts to rigorously evaluate the effects of such services provided to employed workers on participants' subsequent labor market prospects. In this program, operators provided employment in a sheltered environment in which the support services were integrated with the job. The evaluations, based on a well-implemented experimental design, demonstrated that this treatment, when applied to long-term welfare recipients, significantly raised participants' employment rates and earnings (Ham and LaLonde, 1996). Further, these impacts persisted for at least 8 years. More important, these employment and earnings impacts appear to result entirely from the effect of the program on the duration of employment. The treatment did not appear to have any impact on subsequent transition rates out of nonemployment. On the other hand, evaluations revealed few such effects for youth, and more ambiguous effects for adult men.

Thus, certain types of work experience programs, even if provided in the public sector, can have positive effects on subsequent employment stability, if appropriate services are provided in addition to the basic employment experience. For disadvantaged men, perhaps some additional training or credentials can lead to more positive outcomes, though the evidence here is unclear.¹⁸ Also, the extent to which these interventions may interact with other important variables (such as local labor market conditions) has not yet been explored.

¹⁸Recent examples of programs that try to combine employment experience with training and/or counseling include the YouthBuild and Youth Corps programs (American Youth Policy Forum, 1997). However, the effects of these programs on the subsequent labor market outcomes of youth have not been rigorously evaluated.

A different type of intervention seeks to improve the employment stability of disadvantaged workers in their current private sector jobs. For example, in the Post-Employment Service Demonstration, support services are by design detached from the workplace.¹⁹ Employers generally would not be aware that individuals were receiving such services. By contrast to the findings from the NSW Demonstration, the early impacts of these services in one study on labor market outcomes appear to be very small (Hershey and Rangarajan, 1998). On the other hand, labor market intermediaries such as STRIVE or the Center for Employment and Training (CET) work more closely with employers when trying to obtain more successful performance of those placed into jobs. Mentoring and “job coaching” from incumbent workers are among the strategies that have been used recently to help stabilize the work experience of newly placed disadvantaged workers in some programs.²⁰

Also, we note the potential of effective school-to-work (STW) programs to improve the attachment of less-educated young workers to jobs and employers early in their working careers. These programs might succeed in reducing dropout rates of youth who otherwise are performing poorly and are not motivated in their academic work; they might improve early work experience and stability among those who obtain their high school diplomas as well. These programs might particularly be a way of improving the access of the less-educated to “good jobs” and on-the-job training. But, once again, we have little evidence to date on what kinds of STW programs are effective in generating the desired outcomes.

Finally, it is important to remember that the limited early work experience of high school dropouts reflects two very different problems: relatively low transition rates into employment (or lengthy durations of nonemployment) and high transition rates out of employment. Indeed, within educational

¹⁹The Post-Employment Services Demonstration is operated in Chicago, San Antonio, Riverside, California, and Portland, Oregon. Other experimental evaluations are under way in Virginia and Iowa.

²⁰Evaluations of CET have been very positive (Melendez, 1996), though effects on job stability per se have not been analyzed, and replication of results beyond the original sites has not yet been completed.

groups, differences in employment rates by race and/or gender mostly reflect the former type of transition, and between these groups, different rates of transition into employment also account for large shares of overall differences in employment experience.

The causes of lengthier nonemployment spells of less-educated workers and especially blacks relative to other groups have been discussed or reviewed elsewhere at great length (e.g., Holzer, 1986, 1994, 1998a; Juhn, 1992). These causes include differences in the respective search strategies chosen by these groups and in their effectiveness; the limited access that unskilled inner-city minorities have to establishments in areas of job growth due to “spatial” imbalances and related transportation/information problems; the limited willingness of employers to offer jobs to unskilled workers and minorities due to the relatively low skills among the latter and also discrimination by the former; and a growing tendency of unskilled workers (especially males) to withdraw from a labor market that offers them only low wages and benefits, especially in comparison to their nonmarket (and sometimes illegal) sources of income. Differences between men and women, especially among the less-educated, may also reflect child care and health care issues.

In any event, it is worth remembering that job or employment instability is just one of many problems facing very unskilled workers in the current U.S. labor market. Even if cost-effective policies can be designed to reduce this particular problem, we must not lose sight of the others that will remain. In particular there will likely continue to be large differences between the employment experiences of low-skilled and high-skilled workers.

Appendix
Other Coefficients for Transition Rates
(Table 5)

	Males			Females		
	(1)	(2)	(3)	(4)	(5)	(6)
Other personal characteristics						
Black	-0.01 (.02)	-0.02 (.02)	-0.03 (.02)	-0.01 (.02)	-0.002 (.02)	.02 (.02)
Other races	-0.04 (.03)	-0.04 (.03)	-0.05 (.03)	-0.04 (.04)	-0.03 (.04)	-0.04 (.04)
Age	-0.17 (.02)	-0.17 (.02)	-0.11 (.03)	-0.10 (.03)	-0.10 (.03)	.01 (.03)
Age squared/100	.003 (.001)	.003 (.001)	.002 (.001)	.001 (.001)	.001 (.001)	-0.001 (.001)
Actual experience	-0.04 (.005)	-0.04 (.005)	-0.03 (.01)	-0.06 (.01)	-0.06 (.01)	-0.03 (.01)
Log duration prior job	-0.18 (.01)	-0.17 (.01)	-0.15 (.01)	-0.13 (.01)	-0.13 (.01)	-0.11 (.01)
Log tenure	.92 (.03)	.92 (.03)	1.04 (.04)	.92 (.04)	.92 (.04)	1.01 (.04)
Log tenure squared	-0.19 (.01)	-0.19 (.01)	-0.21 (.01)	-0.18 (.01)	-0.18 (.01)	-0.19 (.01)

(table continues)

Appendix, continued

	Males			Females		
	(1)	(2)	(3)	(4)	(5)	(6)
Job Characteristics						
<i>Occupation:</i>						
Sales			.27 (.04)			.26 (.04)
Office and clerical			.26 (.04)			.22 (.03)
Craft (skilled)			.34 (.03)			.32 (.07)
Operatives			.41 (.03)			.41 (.05)
Laborers			.50 (.03)			.52 (.06)
Service			.42 (.03)			.38 (.03)
<i>Industry:</i>						
Agriculture/mining			-.01 (.04)			.17 (.08)
Construction			.29 (.03)			.22 (.07)
Manufacturing			-.16 (.03)			-.15 (.04)
Transportation			-.05 (.04)			-.01 (.06)
Trades			.002 (.02)			.19 (.02)
Payrate			-.05 (.003)			-.07 (.004)

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