

Youth initiation into the labor market

About half of 12- and 13-year-olds surveyed engage in some sort of work; such work is more likely among youths from higher socio-economic backgrounds or who have engaged in 'delinquent' behaviors

Lynn Huang,
Michael Pergamit,
and
Jamie Shkolnik

Young people acquire substantial work experience before age 16, the age at which official statistics begin counting employment. Using the National Longitudinal Survey of Youth—1979 cohort (NLSY79), R.T. Michael and N.B. Tuma examined the amount of work performed by 14- and 15-year-olds using definitions from the Current Population Survey (CPS).¹ Importantly, they found significant differences between black and white youths, and also found that youths who worked at ages 14 and 15 were more likely to be working 2 years later. They concluded that social scientists should include such early work experience in their models. Their findings were influential in the design considerations for the National Longitudinal Survey of Youth—1997 cohort (NLSY97).

Other surveys that capture information about youths as young as 12 do not typically include information on their work activities, and data that focus on work have not sampled those below age 14.² The Fair Labor Standards Act prohibits employment of those younger than age 14, and restricts the hours and jobs allowed for those younger than 16. However, many youths have “jobs” before these ages. These jobs, while not always like those of adults, frequently involve learning work behavior (for example, showing up at a particular time every week), personal responsibility (for example, caring for someone’s child), remuneration, and other characteristics that teach

young adolescents the basic nature of working for someone else.

The NLSY97 provides a unique opportunity to study the very early work experiences of youths and relate these experiences to future labor market behavior. For 12- and 13-year-olds, information was collected about jobs they had held since age 12.

This article examines exclusively 12- and 13-year-olds, focusing on who holds jobs and the nature of those jobs. Is early initiation into the labor market (age at obtaining first job) associated with youths from upper income, more educated families, or does it occur among those who most likely will not pursue advanced schooling? Does work serve to supplement household income in lower-income, single-parent families? These and related questions are examined in relation to race/ethnicity; parental income, education, and marital status; and the presence of siblings.

Schooling achievement—as measured by the Peabody Individual Achievement Test (PIAT) Mathematics score—and time use are compared for youths who have jobs with those who do not. Measuring time use can determine if homework, outside classes, and so forth are substitutes for, or complements to, work. We also observe whether youths in early-age jobs also engaged in or had early initiation into risky behaviors (such as drug and alcohol use, or other delinquency). Finally, we can observe how youths

Lynn Huang is research scientist, and Michael Pergamit is research vice president at the National Opinion Research Center, Washington, DC; Jamie Shkolnik is senior research scientist at American Institutes for Research, Palo Alto, CA.
e-mail: pergamit@norcmail.uchicago.edu

found jobs (that is, did they have help from their parents, other help, or no help at all).

Study methodology

Data for this article are from the first wave of the National Longitudinal Survey of Youth, 1997 Cohort, sponsored by the Bureau of Labor Statistics, U.S. Department of Labor. The survey’s main goal is to document the transition from school to work for the U.S. population born during the 1980–84 period. The first wave of the survey includes 9,022 youths aged 12–18 when interviewed.³

Work experience. The NLSY97 has a unique set of questions on employment that permits investigation of youth initiation into the labor market. The 12- and 13-year-old respondents were asked about any job experiences since their 12th birthday. This experience could include working for a particular employer (for example, delivering newspapers) or doing tasks for several people—freelance jobs (for example, baby-sitting or mowing lawns). Most jobs reported at these ages were freelance jobs. Respondents aged 14 and older were also asked about their experience in freelance jobs since their 14th birthday. However, information on initial entrance into the labor market is incomplete for those respondents, as freelance jobs that ended before age 14 are not included. For this reason, respondents aged 14 and older were excluded from this study.

Youths were asked first to list the *kinds* of jobs they have had since their 12th birthday. Then they were asked whether they got help in finding this kind of work; who helped them; when they started doing this kind of work; whether they are currently doing this kind of work, and if not, when was the last time they did. In addition, for the beginning and end of each kind of job, youths were asked the usual number of hours worked per week, the usual amount of money earned per week, and the number of days and hours worked on week-days and weekends.

A main purpose of this study was to identify youths who work and the number of hours they worked. Therefore, the analysis focuses on two measures of youth employment: A discrete variable measures whether the respondent reported any jobs; a count variable measures the number of hours the respondent worked per week. The information on the number of work hours per week was collected for each kind of work performed—when it was initiated and when it was last (or is currently) performed. However, we do not know the sequential order of jobs performed or whether jobs were (are) performed at the same time. Given this, we use the hours when jobs were last (or are currently) performed, and among those, we use the hours per week on the job with most hours.⁴

Associated factors. Which youths are more likely to enter the labor market in the early adolescent years? Which youths work more hours than others? It is of particular interest to examine labor market initiation with other factors that affect

Chart 1. Cumulative age initiation for 12- and 13-year-olds who have worked by the time they were interviewed, NLSY97

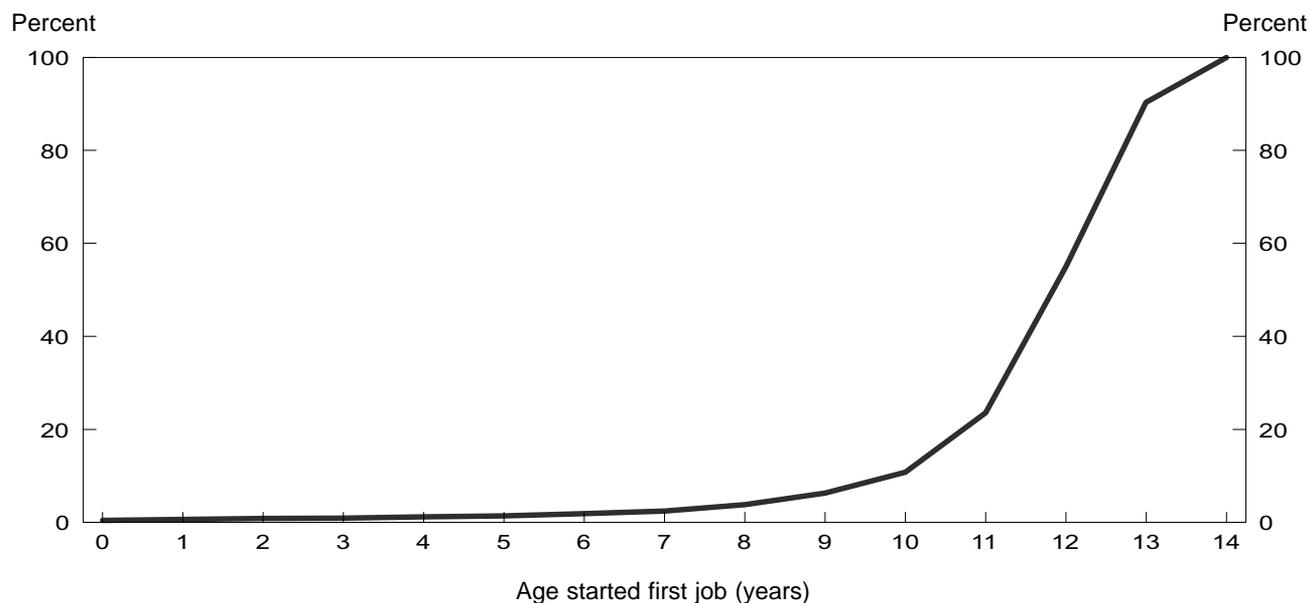


Table 1. Characteristics of 12- and 13-year-old youths, NLSY97

[In percent unless noted otherwise]

Variable	Weighted mean			Variable	Weighted mean		
	Total	Male	Female		Total	Male	Female
Job characteristic				Mother's educational attainment:			
Percent who reported jobs	52.5	51.2	53.9	High school dropout	17.0	16.9	17.1
Conditional on having a job:				High school graduate	32.6	32.4	32.7
Number of jobs	1.6	1.7	1.5	Some college	23.9	22.7	25.3
Age started job (years)	11.6	11.5	11.7	College and up	20.3	21.5	19.1
Percent who got help in finding jobs	61.8	64.2	59.4	Missing	6.2	6.5	5.8
Hours per week on job with most hours	7.1	6.6	7.5	Father's educational attainment:			
Hours per week for those finding a job with help of:				High school dropout	14.5	13.9	15.1
Parents	7.9	7.2	8.7	High school graduate	30.4	30.7	30.1
Someone other than parents	7.4	7.5	7.3	Some college	17.0	17.0	17.1
No one	5.9	5.4	6.4	College and up	20.8	21.9	19.8
Earnings per week on job with highest earnings	\$22.93	\$26.87	\$18.94	Missing	17.2	16.5	18.0
Top 10 job types from the first job listed:				School performance and time use			
Baby-sitting	49.3	17.0	81.8	Ever suspended from school	18.4	25.5	10.9
Mowing / other yard work	22.8	42.7	3.5	PIAT-Math percentile score	54.8	55.5	54.5
Paper route	3.5	4.7	2.3	Spent time doing homework	91.2	90.8	91.7
Snow shoveling	2.9	5.7	.2	Hours on homework per week	6.4	5.6	7.2
Chores, odd jobs	2.1	2.5	1.7	Spent time on extra classes	30.4	26.4	34.6
Farm work	2.0	3.5	.5	Hours on extra classes per week	3.7	3.4	3.9
House cleaning	1.8	2.0	1.7	Spent time watching TV	96.6	97.1	96.2
Pet care	1.5	1.0	2.1	Hours watching TV per week	19.8	20.8	18.8
Selling	1.1	1.7	0.6	Spent time reading for pleasure	65.6	60.7	70.9
Carpentry, building, painting, construction	1.1	2.1	0	Hours reading for pleasure per week	3.4	5.0	13.5
Demographic characteristics				Substance use and delinquency			
Sex	100.0	51.5	48.5	Ever smoked	25.3	25.4	25.3
White, non-Hispanic	62.6	66.5	65.8	Ever drank alcohol	24.3	27.0	21.5
Black, non-Hispanic	15.6	15.4	15.8	Ever used marijuana	6.9	7.9	5.9
Hispanic	12.5	12.9	12.1	Ever ran away	6.0	6.5	5.4
Other race/ethnicity	5.7	5.2	6.4	Ever carried a handgun	7.7	13.5	1.5
Northeast	17.8	17.6	18.1	Ever purposely destroyed property	25.3	32.1	18.2
North Central	25.1	26.1	24.1	Ever attacked another person	14.6	19.3	9.7
West	33.7	33.6	33.8	Ever been arrested for illegal or delinquency offenses	3.2	4.5	2.0
South	23.3	22.7	24.0				
Metropolitan Statistical Area	80.0	81.7	78.2				
Lived with two parents/guardians	69.3	70.7	67.8				
Lived with siblings	84.5	84.5	84.4				
Parents' earnings:							
\$0-9,999	17.9	17.4	18.4				
10,000-19,999	10.3	9.9	10.8				
20,000-39,999	20.7	21.6	19.7				
40,000-79,999	29.7	29.9	29.5				
80,000 and more	9.9	10.5	9.2				
Missing	11.5	10.7	12.5				

Table 2. Percent of 12- to 13-year-old youths who report jobs and hours per week on job with most hours, by demographic characteristics, NLSY97

Demographic categories	Percentage who report jobs	Hours/week on job with most hours
Gender:		
Boy	51.2	6.6
Girl	53.9	7.5
Race/ethnicity:		
White, non-Hispanic	58.9	6.7
Black, non-Hispanic	40.6	7.5
Hispanic	39.3	9.1
Others	38.5	6.8
Region:		
Northeast	55.8	6.4
North Central	58.8	7.1
South	46.9	7.2
West	51.4	7.4
Metropolitan Statistical Areas:		
Not in MSA	57.5	8.1
In MSA	51.3	6.8
Number of parents/guardians:		
Living with two parents	53.3	6.6
Other	50.7	8.1
Siblings in the household:		
Yes	53.1	7.1
No	48.6	6.9
Parents' earnings:		
\$0–\$9,999	49.1	8.0
10,000–19,999	49.8	7.2
20,000–39,999	51.9	8.5
40,000–79,999	57.2	8.6
80,000 and more	59.3	5.0
Missing	43.2	7.1
Mother's educational attainment:		
High school dropout	43.8	8.4
High school graduate	53.8	7.1
Some college	56.4	7.3
College and up	57.9	5.2
Missing	36.6	10.2
Father's educational attainment:		
High school dropout	46.7	7.2
High school graduate	53.3	7.6
Some college	57.2	7.1
College and up	57.8	5.0
Missing	45.1	8.8

the overall well-being of youths' lives and their future adult lives. This issue is examined from different aspects: demographic background, family background, school performance, time use, and risky behaviors.

The two job measures, "ever held a job" and "hours per week on the job with the most hours," are examined first by demographic and family backgrounds—age, race/ethnicity, region, and metropolitan/nonmetropolitan area residence; the number of parents/guardians and siblings in the household; mother's highest grade completed; father's highest grade completed; and parents' earnings.

Then we examined the two job measures with school performance and time use. There are two measures for school

performance: ever being suspended from school and Peabody Individual Achievement Test-Math percentile score. The PIAT-Math score is categorized into quartiles: 0–25, 26–50, 51–75, and 76–100. For time use, respondents were asked about four typical youth activities: doing homework, taking extra classes, watching TV, and reading for pleasure. They were asked if they ever spent time on each activity, then the hours per day spent on each activity on weekdays and weekends. We created discrete variables measuring whether respondents ever spent time in each activity, and variables measuring hours per week spent on each activity.

The next issue examined was whether youths who work were more likely to be associated with risky behaviors. Discrete variables for substance use include cigarette smoking, drinking alcohol, and marijuana use. Discrete variables for delinquent behaviors include running away from home, handgun possession, purposely destroying property, attacking another person, and being arrested last year.

Results

Job characteristics. Of the almost 3,000 12- and 13-year-olds surveyed, 52.5 percent had held a job. (See table 1, page 5). Of those who had worked, the average number of jobs held was 1.6, and the average age of initiation was 11.6 years (the median age of initiation was 12.0). Chart 1 on page 4 shows the cumulative distribution of age initiation for those who have worked by the time they were interviewed. It is easy to see a major upturn in initiation around age 12. While recalling that nearly half the youths had not yet been initiated into the labor force, it is clear that age 12 is a time when many adolescents first get exposure to the working world.

These respondents are too young to work legally at restaurants, stores, and similar businesses. The types of jobs held by 12- and 13-year-olds include primarily "freelance" jobs, mainly baby-sitting, lawn mowing, and other yard work. These three jobs make up nearly 75 percent of the jobs listed. On average, these youths spend approximately 7 hours per week on the job with the most hours (although the median is only 4 hours per week),⁵ and their earnings average about \$23 a week. Of the youths sampled, 62 percent had received some kind of help in finding jobs.

Demographic characteristics. Girls seem somewhat more likely than boys to hold jobs and spend more hours on the job. (See table 2.) In fact, 54 percent of girls held a job, compared with 51 percent of boys; 59 percent of white youths held jobs, compared with about 40 percent of blacks, Hispanics, and others. Similarly, the higher the parents' earnings, the higher the likelihood that their child will have a job. This is not surprising, as most of these jobs will be performed for neighbors and friends who probably have similar income lev-

els; lower income neighbors may be less likely to pay someone to do these jobs. Comparable results are found for mother’s and father’s education level—the higher the parents’ educational attainment, the more likely the child is to have a job. Note, however, that working youths who are minority, poorer, and have less-educated parents seem to work longer hours.

School performance and time use. A similar pattern emerges when examining the percentile score of the PIAT-Math achievement test. The higher the youth’s score, the more likely he or she is to have a job. (See table 3.) This is consistent with the previous relationships because minorities and lower socio-economic status youths, on average, are likely to have lower test scores. Number of hours worked is lowest for the top quartile of students, but students in the quartile with the second highest scores work the most hours per week. Those who have at some time been suspended from school are as likely to work as those never suspended; but when they work, they work more hours.

One argument that has been raised against permitting 12- and 13-year-old children to work is that it takes time away from other important activities, such as schoolwork and reading. Conversely, working could have positive effects through the responsibility it teaches and by reducing time spent in unproductive activities. Respondents were asked whether they spend time on the following activities: homework, extra classes, watching television, and reading for pleasure. Surprisingly, in each case, those who responded yes were more likely to hold a job. The most dramatic difference is in those who report spending time on homework; of them, 53.5 percent reported holding a job. Of those who reported not doing any homework (9 percent of the sample), only 44.6 percent held jobs. Student workers who spend no time on homework work an average of 9.4 hours per week, while those who do spend time on homework spend only 6.9 hours per week on the job. Similarly, student workers who do not take extra classes work more hours than do student workers who take extra classes (7.3 hours compared with 6.5).

It is possible that work is complementary with these four activities. However, it is impossible to determine, as there is no complete description of the youths’ time use. A bigger caveat is that the time-use measure is essentially contemporaneous with the interview date, whereas the work hours measure could be from any time period. And given the probable over-representation of summer jobs, it is doubtful that these data represent either time substitution or complementarity.

Substance use and delinquency. Youths who exhibit risky or dangerous behaviors are consistently more likely to have jobs and tend to work longer hours than their more cautious counterparts. Respondents were asked questions about smoking,

Table 3. Percent of 12- to 13-year-old youths who report jobs and hours per week on job with most hours, by school performance, PIAT-Math score, and time use, NLSY97

Categories	Percentage who report jobs	Hours/week on job with most hours
School performance:		
Ever suspended from school	53.4	8.6
Never suspended from school	52.4	6.7
PIAT-Math percentile score:		
0–25	45.3	7.0
26–50	53.9	7.6
51–75	56.6	7.8
76–100	58.1	6.3
Time use:		
Spent time on homework	53.5	6.9
Did not spend time on homework	44.6	9.4
Spent time on extra classes ...	57.4	6.5
Did not spend time on extra classes	50.5	7.3
Spent time watching TV	52.9	7.1
Did not spend time watching TV	44.8	5.9
Spent time reading for pleasure	53.2	7.2
Did not spend time reading for pleasure	51.4	6.8

Table 4. Percent of 12- to 13-year-old youths who report jobs and hours per week on job with most hours, by substance use or delinquent behavior, NLSY97

Categories	Percentage who report jobs	Hours/wk. on job with most hours
Substance use		
Ever smoked cigarettes	63.1	8.6
Never smoked cigarettes	49.0	6.4
Ever drank alcohol	59.2	7.8
Never drank alcohol	50.4	6.8
Ever used marijuana	63.0	9.0
Never used marijuana	51.8	6.9
Delinquency		
Ever run away from home	59.1	8.2
Never run away from home	52.1	7.0
Ever carried a hand gun	53.4	8.4
Never carried a hand gun	52.5	6.9
Ever purposely destroyed property	58.3	7.0
Never purposely destroyed property	50.6	7.1
Ever attacked another person	56.0	7.9
Never attacked another person	52.0	6.9
Arrested past year	63.8	8.2
Not arrested past year	52.2	7.0

drinking, smoking marijuana, running away from home, carrying handguns, destroying property, fighting, and getting arrested. In every category, youths who answered yes to the dangerous behavior are more likely to hold jobs. (See table 4.)

Also, they work at least as many hours as those who answered that they had not participated in the drug use or delinquency activities. There could be several explanations. For example, these youths may engage in work to support the cost of the dangerous or risky activities. However, the causality could be in the other direction. With more disposable income, the youths have more choices about the types of activities in which they can participate. Of course, it could be an unobserved factor that influences both early initiation into work and risky behaviors. Regardless of the explanation, this is interesting in light of the earlier results indicating that youths who were white, had higher socio-economic status, and were higher-achieving students were more likely to hold jobs.

Regression analysis. The previous analysis measures the differences in the likelihood of employment (and hours worked) for various characteristics of youths. However, the analysis considers each variable separately, not all at once. A regression model is used to examine the impact of all of these variables on whether or not a youth has ever been employed.⁶ Specifically, a probit regression model is used to measure the impact of each variable on the probability of having ever been employed.⁷

Table 5 shows the results of a probit regression of the probability of having a job as related to demographic, school performance and time use, and substance use and delinquency variables. The impact of the non-demographic variables can vary by sex. The model confirms earlier results that being white and of higher socio-economic status (higher parental earnings and education levels) increases the probability that an individual will hold a job. However, the “number of parents” variable indicates that children in two-parent families are less likely to hold a job than those in one-parent families. Also, unlike the simpler tabulations, boys are more likely to work than girls.

All six of the schooling and time-use variables have statistically significant effects for both sexes; however, not all are numerically significant. Youths with higher PIAT-Math test scores are more likely to hold jobs, though the effect is not large. Most time-use variables have quite small effects, although females who take extra classes are more likely to hold jobs. Interestingly, the one strong effect is that students who had been suspended from school are more likely to hold jobs.

As shown earlier, having smoked or been arrested in the past year have positive associations with the likelihood of having a job for both sexes. Males who had smoked marijuana, run away from home, or fought also had positive associations, as did females who drank alcohol or purposely destroyed property. Some rates are small, but having smoked cigarettes is strongly associated with having worked. Inter-

Table 5. Estimated marginal effects from probit regression modeling the probability of 12- to 13-year-old youths having a job, NLSY97

Variable	Estimated marginal effect
Intercept	-1.11 (0.001)
Age .....	.10 (0.0001)
Male .....	.03 (0.0003)
Black, non-Hispanic	-.12 (0.0002)
Hispanic	-.14 (0.0002)
Other race/ethnicity	-.20 (0.0002)
Northeast .....	.02 (0.0002)
North Central .....	.03 (0.0002)
West	-.05 (0.0002)
Metropolitan Statistical Area	-.03 (0.0001)
Number of parents/guardians	-.05 (0.0001)
Number of siblings .....	.004(0.00005)
Parents' earnings, with greater than or equal to \$80,000 as the reference group:	
\$0-\$9,999	-.04 (0.0003)
10,000-19,999	-.04 (0.0003)
20,000-39,999	-.03 (0.0002)
40,000-79,999	-.02 (0.0002)
Missing	-.12 (0.0003)
Mother's education, with college graduate as the reference group:	
High school dropout	-.02 (0.0002)
High school graduate .....	.01 (0.0002)
Some college .....	.01 (0.0002)
Missing	-.15 (0.0003)
Father's education, with college graduate as the reference group:	
High school dropout	-.05 (0.0002)
High school graduate	-.02 (0.0002)
Some college .....	.01 (0.0002)
Missing	-.08 (0.0002)
Boys:	
Ever suspended from school .....	.04 (0.0002)
PIAT-Math percentile score .....	.0002 (0.000003)
Hours/week on homework .....	.004 (0.00001)
Hours/week on extra classes	-.001 (0.00002)
Hours/week watching TV	-.002 (0.00001)
Hours/week reading for pleasure	-.001 (0.00001)
Ever smoked cigarettes .....	.09 (0.0002)
Ever drank alcohol	-.002 (0.0002)
Ever used marijuana .....	.07 (0.0003)
Ever run away from home .....	.10 (0.0003)
Ever carried a hand gun	-.07 (0.0002)
Ever purposely destroyed property	-.01 (0.0002)
Ever attacked another person .....	.09 (0.0002)
Arrested past year .....	.16 (0.0004)
Girls:	
Ever suspended from school .....	.09 (0.0003)
PIAT-Math percentile score .....	.001 (0.000003)
Hours/week on homework	-.0002 (0.00001)
Hours/week on extra classes .....	.006 (0.00002)
Hours/week watching TV	-.002 (0.00001)
Hours/week reading for pleasure	-.001 (0.00001)
Ever smoked cigarettes .....	.15 (0.0002)
Ever drank alcohol .....	.03 (0.0002)
Ever used marijuana	-.07 (0.0004)
Ever run away from home	-.01 (0.0004)
Ever carried a hand gun	-.11 (0.0006)
Ever purposely destroyed property .....	.09 (0.0002)
Ever attacked another person	-.09 (0.0003)
Arrested past year .....	.02 (0.0005)
LR test (Chi-Square)	737025153
P-value .....	.0000

estingly, having carried a handgun is negatively associated with having worked for both sexes, but having fought and smoked marijuana are negative for females only.

To summarize, youths from families of higher socio-economic status, with better school performance (higher PIAT-Math scores), and who engage in positive time-use activities such as reading and homework are more likely to be employed. At the same time, youths who engage in risky behaviors or have been suspended from school also have increased likelihood of early employment. It is difficult to speculate why these various relationships exist. It could be that some youths are “go-getters” who initiate early into many activities, good and bad. Or there could be two different types of youth that engage in early work activity. As additional data are released, it will be possible to estimate longitudinal models that are better suited to control for unobserved heterogeneity. In the future, the relationship between various adolescent behaviors, good and bad, with employment might be better understood.

More research needed

This article used a rich new data source, the NLSY97, to look at youths’ initiation into the labor market. Unlike any previous data set, the NLSY97 collects information on employment

from adolescents as young as 12 years. The NLSY97 provides detailed information about the responding youths, their parents, and other family members, allowing a study of the antecedents to labor market participation and labor supply. The data also allow a better understanding of factors that influence entry into the labor market.

Much concern exists over the impact of youths working while in school, and the evidence is unclear.⁸ Models that can capture earlier experiences will be richer in controlling for the types of unobserved heterogeneity that confound the work-school relationship. This article seeks to lay the groundwork for later research. We find that youths who are white and come from higher socio-economic families are more likely to initiate work earlier. These results are consistent with studies of older adolescents. However, a number of contrasting results suggest there is more to the story. For example, youths who have been suspended from school at some time and youths who smoke (as well as engage in other deviant activities) are also more likely to work at early ages.

The long-term effects of early initiation into the labor market will become apparent as more years of data are collected and as these 12- and 13-year-olds complete their schooling and fully enter the labor market. The cumulative years of data will allow a much better job of modeling work development and the pathways to successful adult outcomes.

Notes

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¹R.T. Michael and N.B. Tuma, “Youth Employment: Does Life Begin at 16?,” *Journal of Labor Economics*, 1984, vol. 2, no. 4, pp. 465–476.

²See for example, the National Educational Longitudinal Survey–1988 or the Youth Risk Behavior Survey.

³Analysis of the interview data revealed the final sample size to be 8,984.

⁴The measure we’ve chosen will most likely over-represent summer

jobs that have a greater number of hours. This over-representation may affect the relationships we estimate with some of the variables.

⁵The distribution has a very long right tail. We considered truncating the distribution to eliminate some very high values, but could not establish clearly that these were errors.

⁶Because youths aged 12–13 are not officially in the labor force and no information is available on whether or not a respondent is looking for employment, we do not distinguish between the concept of being in the labor force and the concept of being employed.

⁷A probit model is indicated because the outcome variable, whether a respondent ever worked, is discrete. See D.R. Cox, *Analysis of Binary Data* (London, Cambridge University Press, 1970).

⁸See for example C.J. Ruhm, “Is High School Employment Consumption or Investment?,” *Journal of Labor Economics*, 1997, vol. 15, no. 4, pp. 735–776.