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AUTHOR Passmore, David Lynn; Welch, Frederick G.  
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 INSTITUTION Pennsylvania State Univ., University Park. Div. of Occupational and Vocational Studies.  
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ABSTRACT

A study examined the relationship between preferences for part-time work and the characteristics of unemployed youth. Using data from the March 1979 Current Population Survey, the relationship was examined between preferences for part-time work and the characteristics of 2,087 unemployed 16- through 24-year-olds in the civilian, noninstitutional population of the United States. Age and school enrollment were found to be the strongest correlates of desire for part-time work. Gender, race, veteran status, marital status, and educational attainment were related only slightly to part-time job preference. While these data were found to support the notion that most unemployed youths searching for part-time work are 16- to 19-year-olds and enrolled in school, they were not found to indicate anything about the economic significance of youth unemployment. Recommendations were made calling for additional research on the consequences of teenage labor market problems on subsequent adult well-being. (MN)

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Relationship Between Preference for  
Part-Time Work and the Characteristics of  
Unemployed Youth

David Lynn Passmore

and

Frederick G. Welch

The Pennsylvania State University

Paper Presented at the Annual Convocation of  
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Relationship Between Preferences for Part-Time Work and  
Characteristics of Unemployed Youths

Many analysts believe that youth unemployment is not a serious problem because many unemployed youths want only part-time jobs for "pocket money", are enrolled in school, and can depend on other family members for necessities (see Lerman, 1980, and Feldstein, 1977, for a summary of these views). Under this belief, the Reagan administration has reduced efforts on occupational education and other youth services because few economic gains are expected from government spending to reduce youth joblessness. Rather, the administration's "program for economic recovery" emphasizes reductions in the marginal tax rate, government spending, and government regulation contributing to business overhead. As President Reagan (1981b) told members of the NAACP at their 1981 convention, "Massive amounts of government aid and intervention have failed to produce the desired results [in the economy]. A strong economy returns the greatest good. . . . It returns greater benefit than that provided by specific government programs" (p. 703).

Noting the apparent contradiction between the existence of wide-spread joblessness and numerous help-wanted advertisements, the President has questioned the significance of the unemployment figures. In his often-quoted remarks over lunch with Congressional women, the President wondered, "How does a person qualify calling himself unemployed when there is a fellow spending money advertising and saying, 'I've got a job. Come fill my job.?' " (Reagan, 1981a, p. 306). Replaced by concern over inflation, high unemployment--especially among non-white youth--just does not seem to be a "sexy" social issue any more. According to Sandra Shaber of Chase Econometrics, Inc., "What we are seeing now is that the pain threshold [for tolerating unemployment] is higher than it was a couple of years ago" (quoted in Fuerbringer, 1981, p. 4E).

Purpose of the Study

Is this belief about the triviality of youth unemployment, and its consequences for spending on employment and training efforts, justified? We consider this question from empirical, logical, and methodological points of view in the remainder of this paper. First, we treat empirically only one aspect--the desire for part-time work--of the data undergirding the belief that youth unemployment is not a serious problem. Specifically, the relationship was examined between preferences for part-time work and the characteristics of unemployed 16- through 24-year olds in the civilian, noninstitutional population

of the United States during March 1979. This information was derived from an analysis of records of 2,087 unemployed youths from the 1979 Annual Demographic File prepared from the March 1979 Current Population Survey (CPS) by the U. S. Department of Commerce (1979).

Estimates of preferences for part-time work among unemployed 16- through 21-year olds are tabulated monthly by gender, race, and school enrollment status in Employment and Earnings, a U. S. Department of Labor periodical. Typically, those enrolled in school are more likely to be searching for part-time work than those not enrolled in school. In the study presented in the remainder of this paper, regression methods were used to determine whether the relationship between school enrollment status and preferences for part-time work persists independent of gender, race, marital status, receipt of public assistance payments in 1978, household responsibility, veteran status, and educational attainment. These regression results improve our understanding of youth preferences for part-time work because simple tabulations of variables, such as those published in Employment and Earnings, often misstate true relationships among the variables. They extend this understanding because the current study contains variates whose relationship to the desire for part-time work previously have not been considered empirically.

Second, in our discussion of these regression results, we list logical inconsistencies in the argument that youth unemployment is inconsequential because many youths are part-time job seekers. Third, in this same discussion, we examine the methodological problems inherent in actually determining the consequences of youth unemployment. This discussion of logical and methodological problems should suggest points of departure for research by occupational educators and others interested in constructing a rationale for education for work as a means for treating problems associated with youth labor market difficulties.

### Methods

#### Data

Data examined in this study were collected through the March 1979 CPS. The CPS is a monthly household sample survey conducted by the U. S. Bureau of the Census to provide estimates of the size and distribution of employment, unemployment, and other characteristics of the civilian, noninstitutional population of the United States. About 55,000 households were selected and surveyed for the March 1979 CPS, producing data on over 120,000 persons who were 16 years of age or older. March 1979 CPS data from unemployed 16- through 24-year olds

were extracted from the 1979 Annual Demographic File, a Department of Commerce machine-readable data file released for public use.

A detailed technical description of the CPS sampling frame and methods, data collection and processing, and population estimation was provided by the U. S. Department of Commerce (1978). The Annual Demographic File is available for use by interested researchers through the U. S. Bureau of the Census, Customer Products Division, as well as through a variety of commercial vendors. The data used in this study from the Annual Demographic File can be obtained from the authors on a requestor-provided magnetic tape.

The March 1979 sample included 2,087 unemployed youths. Of these, 1,363, or 65.3 percent, claimed to be searching for full-time jobs. The remaining 724, or 34.7 percent, unemployed teenagers and young adults reported that they were looking for part-time jobs. The distinction between part-time and full-time status was left for respondents to define. Empirical work reported in this paper attempted to determine the distinguishing personal features of these 724 part-time job seekers, compared to the 1,363 persons who were searching for full-time jobs.

Ratio estimates of U. S. youth population figures can be constructed from CPS sample data by multiplying each sample member's data points by a unique sampling weight provided in the Annual Demographic File. In this way, sample members "speak" for all members of the population. About 35 of every 100 of the 2.8 million 16- through 24-years unemployed during March 1979 wanted part-time jobs according to ratio estimates derived for this research from the 1979 Annual Demographic File. Therefore, the proportion of part-time job seekers in the sample was about the same as estimated for the population. Unweighted data were analyzed in this study because methods currently are unavailable for handling weighted data in the type of regression computed in this research.

### Analysis

Logistic regression methods (see Walker & Duncan, 1967, especially equation 3.1) were used to analyze data for this study. Gender, race, marital status, household responsibility, receipt of public assistance payments, veteran status, educational attainment, and several age by school enrollment status interaction terms were included in this regression model. These variates were regressed on a categorical criterion variable indicating whether an unemployed youth preferred a part-time job during the March 1979 CPS reference period. The logistic specification restricted the estimated probability of

desire for part-time work to range between zero and positive one. Ordinary least squares regression on a nominally-scaled criterion variable can produce estimated values outside this range. And, because such a qualitative variable is not distributed normally, estimation of the model's coefficients through ordinary least squares methods will not be efficient in a statistical sense (Theil, 1971).

Gender entered the model as a categorical variate (if male, or not) as did race (if caucasian, or not), marital status (if ever married, or not), veteran status (if ever served in the Armed Forces, or not), receipt of public assistance payments (if received public assistance payments in 1978, or not), and household responsibility (if head or wife of head of household, or not). To determine unique patterns of preference for part-time work among teenagers and young adults, two categorical variates were specified to allow age and school enrollment to interact. One variate indicated whether a CPS sample member was 16 or 17 years old and enrolled in school; another variate indicated whether a sample member was 18 or 19 years old and enrolled in school. The reference group for these two interaction terms was 16- through 24-year olds not enrolled in school. Educational attainment entered the model as integer years of school completed. With the exception of gender, race, and school enrollment status, the relationships have not been studied among the variates selected and youth preference for part-time work. However, each variate has a well-established link with youth labor market activity.

Gender and marital status have been strongly related to youth labor force participation over the past 30 years (U. S. Department of Labor, 1980, Tables A-4 and B-2). During this period, large racial differences were observed in youth unemployment rates, with these differences widening markedly since 1966 (U. S. Department of Labor, 1980, Tables A-20 and A-21. Also, in spite of their low representation in the labor force, young Vietnam-era veterans have been over-represented in the ranks of the unemployed (U. S. Department of Labor, 1980, Table 2 and p. 102).

Age and schooling also have been strongly related to youth unemployment rates. These rates have been highest among 16- and 17-year olds, especially among those not enrolled in school (computed from data in Young, 1979, Table A). And, Young (1979, p. 30) determined that unemployment rates among people with no more than 10 years of schooling in 1978 were double those with 12 years of schooling, and were triple those with 16 years of schooling.



Household responsibility is a proxy, and decidedly imprecise, measure of need for income available through full-time employment. The head of a household is one in whose name a home is owned or rented, or, if held jointly, any one of the owners or renters. Transparent in this variate is the amount of the unemployed youth's assets, in-kind wealth, or motivation to work which could affect serious labor force attachment. Similarly, receipt of public assistance income is a proxy measure of poverty, although eligibility levels for public assistance may not objectively define economic hardship. By public assistance is meant payments such as aid to families with dependent children and welfare. Moreover, because this measure refers to public assistance income received in 1978, the assumption is made that low income status persisted into March 1979. Youths from families with low incomes often bear a large share of unemployment (Young, 1979, pp. 37-38; Iden, 1976, p. 93, Table 10).

The criterion variable and variates were measured through face-to-face interviews or telephone interviews with a responsible member of each CPS household. Borus, Mott, & Nestel (1978) provide an analysis of possible response errors embodied in this choice of respondent (see also, U. S. Department of Commerce, 1968, and U. S. Department of Labor, 1976, ch. 11, for a discussion and estimation of errors and biases in these interview data). Coefficients for each variate in the logistic function fit to these data are reported and interpreted in the next section of this paper.

#### Findings

Results are shown in Table 1 of the regression of characteristics of unemployed 16- through 24-year olds on whether they wanted a part-time job during March 1979. Footnotes to Table 1 document many technical details and intermediate results of this regression analysis. According to the raw data, about 35 of every 100 sample members wanted a part-time job; the average chance of desiring part-time work calculated through the statistical model applied in this study was 33 out of 100. Therefore, the characteristics examined in the model specified for this study underestimate slightly the chances of part-time work preference among unemployed youth.

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Insert Table 1 About Here

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Dominance of age and school enrollment status in the logistic equation displayed in Table 1 is demonstrated in Table 2. Table 2 contains the results of a simulation of the chances of part-time work preference for variates with coefficients in Table 1 that were at least two times their standard errors. These chances of part-time work preference for various characteristics are

compared to chances for the "typical" 16- through 24-year old. By "typical" is meant a youth with characteristics close to the sample mean; that is, the "typical" youth was male, caucasian, not enrolled in school, not a veteran, not a head, or wife of a head, of a household, not receiving public assistance, unmarried, and had 12 years of schooling.

Youths 16 or 17 years old who were enrolled in school were about 82 percent more likely than the "typical" youth to be searching for part-time work. Those enrolled in school and 18 or 19 years old were 67 percent more likely to have preferred a part-time job. Gender and educational attainment, although having large regression coefficients in Table 1 compared to their standard errors, were related only slightly to desire for part-time work. The coefficients for race, veteran status, household responsibility, receipt of public assistance payments, and marital status were not large enough to be of statistical or practical importance in this analysis.

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Insert Table 2 About Here

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#### Discussion

The results presented in Tables 1 and 2 corroborate other research findings that most youth enrolled in school want part-time jobs. The contribution of this analysis is that the relationship between school enrollment status and preference for part-time work was shown to be independent of other variates studied. However, several logical inconsistencies are evident using these data to assert that youth joblessness is inconsequential, an assertion that is part of the foundation of current benign neglect of youth unemployment in public policy. Additional methodological sophistication is needed to examine such an assertion.

#### Logical Inconsistencies

Some teenagers searching for part-time work may be interested in a job only casually, without either seriousness or sense of purpose injected into their job search. However, knowing merely that they are searching for part-time work is not sufficient to conclude this. The data used in this research--the same data used by the government to estimate official unemployment figures--only provide a measure of labor force activity. As Cain (1979a, 1979b) has pointed out, unemployment figures never were intended to measure hardship; rather, unemployment rates are indicators of the cyclical response of the economy to those who can work and seek work--without any additional judgments



about the utility of work for the jobseekers. For instance, use of preferences for part-time work among unemployed youth enrolled in school as evidence of the triviality of the youth unemployment problem ignores the complementarity between school and work for many youth. Many low-income youth may need the earnings from part-time jobs to stay in school (see Bowers, 1979). At best, beliefs about the insignificance of youth unemployment using cross-sectional labor force data are highly speculative.

#### Methodological Necessities

Just what sort of evidence, then, would be needed to examine the consequences of youth unemployment? Evidence is needed on the private and social costs of youth unemployment, from aggregate and individual perspectives. In the aggregate, the Employment and Training Report of the President (U. S. Department of Labor, 1980, pp. 76-77) noted that society loses the potential output unemployed youths could have created, even at part-time rates. Their idleness reduces their personal and family incomes, with an unknown effect on government outlays for such transfers as food stamps and public assistance payments (see also Brenner, 1980). A comprehensive accounting of these private and social costs in the aggregate would aid appreciably in the debate over the consequences of youth joblessness.

An even more important question might be what are the long-term effects of youth labor market problems (even lack of part-time work experience) on measures of subsequent adult welfare? Evidence is only beginning to emerge, mostly from analyses of longitudinal data, on the significance of youth unemployment for adult life. Stevenson (1978) found that adult employability and earnings are related positively to opportunities to gain work experience while young. Coleman (1976) and Freeman (1976) stressed the importance of work while in secondary school on future employment. And, Stephenson (1979) showed that work during secondary school was associated with lower rates and shorter periods of post-school joblessness among young men and women studied in the National Longitudinal Surveys of Labor Market Experience (see Parnes & Sheets, 1970).

One serious methodological problem is presented in studies of the consequences of individual youth unemployment, however. Suppose those unemployed while young are more frequently unemployed as adults. One explanation is that early unemployment has a genuine behavioral effect on individuals. Heckman (in press; see also, Flinn & Heckman, in press) called this state dependence; that is, status at one time depends on status at a previous time. Another explanation,

labelled heterogeneity by Heckman (in press), that can be offered is that these individuals are merely members of racial or other groups that experience high unemployment persistently--unaltered or "unscarred" by their previous labor market problems.

Tuma, Hannan, and Groenveld (1979) provided methods for distinguishing heterogeneity from state dependence, and Stephenson (1979) has applied these methods in his study of the consequences of work experience while in school. This methodological problem is quite common in a variety of research areas (cf., Singer & Cohen, 1979, for a study of this problem with data on malaria incidence and recovery). The methodological advances for the treatment of this problem will need to be introduced into any serious study of the consequences of youth employment.

#### Summary

Using data from the March 1979 Current Population Survey, the relationship was examined between preferences for part-time work and the personal characteristics of 2,087 unemployed 16- through 24-year olds in the civilian, noninstitutional population of the United States. Age and school enrollment were found to be the strongest correlates of desire for part-time work. Gender, race, veteran status, marital status, and educational attainment were related only slightly to part-time job preferences. These data support the notion that most unemployed youths searching for part-time work are 16 to 19 years old and enrolled in school; on the other hand, knowing merely this does not indicate that youth unemployment has little economic significance, as some analysts have suggested. Additional research on the consequences of teenage labor market problems on subsequent adult well-being is needed to determine the significance of youth unemployment.

## References

- Borus, M. E., Motz, F. L., & Nestel, G. Counting youth: A comparison of youth labor force statistics in the Current Population Survey and the National Longitudinal Surveys. Columbus, Ohio: The Ohio State University, Center for Human Resource Research, 1978. (ERIC Document Reproduction Service No. ED 155 491)
- Brenner, H. M. Estimating the social costs of youth unemployment problems. In B. Linder & R. Taggart (Eds.), A review of youth employment problems, programs, and policies: Volume 2, Special needs and concentrated problems. Washington, D. C.: Vice President's Task Force on Youth Employment, 1980. (ERIC Document Reproduction Service No. ED.195 665).
- Cain, G. G. Labor force concepts and definitions in view of their purposes. In National Commission on Employment and Unemployment Statistics, Concepts and data needs (appendix vol. 1). Washington, D. C.: U. S. Government Printing Office, 1979. (a)
- Cain, G. G. The unemployment rate as an economic indicator. Monthly Labor Review, 1979, 102 (3), 24-35. (b)
- Coleman, J. S. The school to work transition. In The teenage unemployment problem: What are the options? Washington, D. C.: U. S. Government Printing Office, 1976.
- Flinn, C., & Heckman, J. New methods for analyzing individual event histories. Sociological Methodology, in press.
- Feldstein, M. S. The private and social costs of unemployment (Working Paper No. 223). Cambridge, Massachusetts: National Bureau of Economic Research, Inc., 1977.
- Freeman, R. Teenage unemployment: Can reallocating resources help? In The teenage unemployment problem: What are the options? Washington, D. C.: U. S. Government Printing Office, 1976.
- Fuerbringer, J. A higher threshold of pain over joblessness? New York Times, August 9, 1981, p. 4E.
- Harrell, F. The LOGIST procedure. In P. S. Reinhart (Ed.), SAS supplemental library user's manual: 1980 edition. Cary, North Carolina: SAS Institute, 1980.
- Heckman, J. Simple models for discrete panel data. In Structural analysis of discrete data. Cambridge, Massachusetts: MIT Press, in press.

- Iden, G. Policy options for the teenage unemployment problem (Background Paper No. 13). Washington, D. C.: Congress of the United States, Congressional Budget Office, 1976. (ERIC Document Reproduction Service No. ED 141 587)
- Lerman, R. An analysis of youth employment problems.. In B. Linder & R. Taggart (Eds.), A review of youth employment problems, programs, and policies: Volume 1, The youth employment problem: Causes and dimensions. Washington, D. C.: Vice President's Task Force on Youth Employment, 1980. (ERIC Document Reproduction Service No. ED 195 664)
- Parnes, H. W., & Sheets, C. T. The National Longitudinal Surveys data files: Content and structure. In J. Raben & G. Marke (Eds.), Data bases in the humanities and social sciences. New York: North Holland Publishing Co., 1980.
- Reagan, R. Program for economic recovery: Remarks and a question-and-answer session at a luncheon meeting with congressional women. Weekly Compilation of Presidential Documents, 1981, 17 (12), 299-307. (a)
- Reagan, R. Remarks at the NAACP convention in Denver, Colorado, June 29, 1981. Weekly Compilation of Presidential Documents, 1981, 17 (27), 699-705.
- Singer, B., & Cohen, J. E. Estimating malaria incidence and recovery rates from panel surveys. Mathematical Biosciences, 1980, 49, 273, 305.
- Stephenson, S. P. The short-run consequences of work experience while in school. In Expanding employment opportunities for disadvantaged youth. (Special Report Number 37). Washington, D. C.: National Commission on Employment Policy, 1979.
- Stevenson, W. The relationship between early work experience and future employability. In A. Adams & G. L. Mangum, The lingering crisis of youth unemployment. Kalamazoo, Michigan: W. E. Upjohn Institute for Employment Research, 1978.
- Theil, H. Principles of econometrics. New York, New York: John Wiley & Sons, 1971.
- Tuma, N., Hannan, M., & Groenvelde, L. Dynamic analysis of event histories. American Journal of Sociology, 1979, 84 (4), 820-854.
- United States Department of Commerce, Bureau of the Census. The Current Population Survey reinterview program: January 1961 through December 1966 (Technical Paper Number 19). Washington, D. C.: U. S. Government Printing Office, 1968.

United States Department of Commerce, Bureau of the Census. The Current Population Survey: Design and methodology (Technical Paper Number 40). Washington, D. C.: U. S. Government Printing Office, 1978.

United States Department of Commerce, Bureau of the Census. Technical documentation, Annual Demographic File, (March supplement of Current Population Survey), 1979. Washington, D. C.: Bureau of the Census, Data Users Services Division, Customer Services Branch, 1979.

United States Department of Labor, Bureau of Labor Statistics. The BLS handbook of methods (Bulletin 1910). Washington, D. C.: U. S. Government Printing Office, 1976.

United States Department of Labor, Employment and Training Administration. Employment and training report of the president. Washington, D. C.: U. S. Government Printing Office, 1980.

Walker, S. H., & Duncan, D. B. Estimation of the probability of an event as a function of several independent variables. Biometrika, 1967, 54 (1 + 2), 167-179.

Young, A. M. Students, graduates, and dropouts in the labor market (Special Labor Force Report No. 223). Washington, D. C.: United States Department of Labor, Bureau of Labor Statistics, 1979.

Table 1

Relationship Between Preferences for Part-Time Work and Characteristics of  
Unemployed 16- Through 24-Year Olds in the Civilian Noninstitutional  
Population of the United States During March 1979

Characteristic	Sample Mean <sup>a/</sup>	Unstandardized Coefficient <sup>b/ c/</sup>
<u>Gender</u>		
male	0.532	-0.483 <sup>*/</sup>
female	0.468	<u>rc</u> <sup>d/</sup>
<u>Race</u>		
caucasian	0.776	0.220
non-caucasian	0.224	<u>rc</u>
<u>Marital Status</u>		
ever married	0.218	-0.015
never married	0.782	<u>rc</u>
<u>Veteran Status</u>		
veteran	0.049	-0.607
non-veteran	0.951	<u>rc</u>
<u>School Enrollment by Age</u>		
16 or 17 years and in school	0.200	4.661 <sup>*/</sup>
18 or 19 years and in school	0.067	3.327 <sup>*/</sup>
16 through 24 years and not in school	0.733	<u>rc</u>
<u>Household Responsibility</u>		
head or wife of head	0.197	0.120
not head or wife	0.803	<u>rc</u>
<u>Public Assistance</u>		
received in 1978	0.058	-0.104
not received in 1978	0.942	<u>rc</u>
<u>Educational Attainment</u>	12.153	0.141 <sup>*/</sup>
<u>Intercept Term</u>	--	-3.500 <sup>*/</sup>



Source: Estimated from logistic regression of data on incidence of part-time work preferences of 2,087 unemployed teenagers and young adults in the 1979 Annual Demographic File assembled by the U. S. Bureau of the Census from the March 1979 Current Population Survey

a/ Mean values for categorical variates are the proportions of sample members in categories

b/ Estimated by solving for  $\hat{\beta}_j$ , as shown in section 4 of Walker and Duncan (1967), where, for person  $i$ ,  $P[\text{part}]_i = \frac{e^{-\alpha + \sum_j (-X_{ij} \hat{\beta}_j)}}{1 + e^{-\alpha + \sum_j (-X_{ij} \hat{\beta}_j)}}$ , and  $\hat{\beta}_j$  is the unstandardized coefficient for variate  $j$ ,  $P[\text{part}]_i$  is the probability of part-time work preference for person  $i$ ,  $\alpha$  is an intercept term,  $X_{ij}$  is the value on variate  $j$  for person  $i$ , and  $e$  is the base of natural logarithms.

c/ The fit of the model to the data is indicated by a chi-square of 1124, which, with 9 degrees of freedom, is well beyond conventional critical values. This chi-square value is twice the difference in the log likelihood for the model with all variables from the likelihood based on a model containing the intercept only (see Harrell, 1980, p. 83).

d/  $rc$  = reference category.

\* Indicates coefficient at least twice as large as its standard error.

Table 2

Simulation of Chances of Preferring Part-Time Work by  
Age, School Enrollment, Gender, and  
Educational Attainment

Characteristic <sup>a/</sup>	Compared to Chances for "Typical" <sup>b/</sup> Youth
<u>School Enrollment and Age</u>	
if 16 of 17 <u>and</u> enrolled in school	8.2 of 10 greater
if 18 or 19 <u>and</u> enrolled in school	6.7 of 10 greater
<u>Gender</u>	
if female	0.6 of 10 greater
<u>Educational Attainment</u>	
if 10 years of education	0.3 of 10 less
if 14 years of education	0.3 of 10 greater

Source: Computed from coefficients and equation in footnote b for Table 1. The estimated probability of desire for part-time work for the "typical"

would be:  $[1.0 + e^{(-1.0)(-3.5 + 0.48 + 0.22 + ((12.0)(0.14))}]^{-1.0}$  or 0.11.

As an example of the derivation of the figures tabulated, the gender coefficient is dropped if a male/female comparison is desired (because the categorical variate was coded in the equation as "1" for males and "0" for females). So, the probability of preference for part-time work for a female with all other "typical" characteristics is:

$[1.0 + e^{(-1.0)(-3.5 + 0.22 + ((12.0)(0.14))}]^{-1.0}$  or 0.17. Therefore, the estimated difference between males and females with other characteristics held constant was 0.06, or 0.6 out of 10.

<sup>a/</sup> Only characteristics with coefficients in Table 1 that were at least twice as large as their standard errors were tabulated.

<sup>b/</sup> "Typical" in the sense that characteristics close to the average for the sample were chosen. The "typical" youth was male, caucasian, not enrolled in school, not a veteran, not a head of a household, not receiving public assistance, unmarried, and had 12 years of schooling.