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7 Do Better Jobs Make Better Workers? Absenteeism from Work Among Inner-City Black Youths

Ronald Ferguson and Randall Filer

7.1 Introduction

Employed black youths earn roughly the same wages as white youths (Freeman and Wise 1982). Thus, at least as far as wages are concerned, the disadvantage faced by black youths in the labor market is not that they obtain worse jobs than white youths do, but that white youths seem to be able to find jobs with greater ease (Clark and Summers 1982). Counter to conventional wisdom, Ellwood (in this volume) has shown that this difference does not arise from patterns of residential and employment location. Rather, it appears that a good deal of the explanation has to do with the relative position of black youths in the hiring queue: they are more often at the rear or excluded altogether. This study will investigate some possible reasons why black youths may appear less attractive to employers and will also suggest possible methods of improving their relative standing.

Justifiable or not, black youths have a collective reputation as the least dependable and least productive demographic group in the labor force. Analysis of data in the Current Population Survey shows that there is a statistically significant difference in absenteeism between black and white youths, with the black youths absent more often.[1] Thus, even in the absence of a residual preference for hiring white youths, it is not surprising that black youths might appear less attractive to potential employers, other things being equal. If their negative reputation as a group plays an important role in the treatment of individual black youths, information that aids employers in the screening process

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should reduce this statistical discrimination, thereby helping deserving black youngsters to be treated more fairly. Similarly, measures that induce black youngsters collectively to improve their conduct might gradually erode their negative reputation and their poor position in the queue.

Some analysts (Anderson 1980, for example) argue that the conduct of inner-city black youths is more sensitive to the quality of the jobs they hold than is the behavior of other youths. Thus, it is reasoned, various forms of job upgrading may go a long way toward producing more job commitment and conformity to accepted standards of conduct on the part of black youths. Others (Banfield 1974, for example), however, are highly sceptical of that view and believe that the employment behavior of inner-city youths is too tied to educational deficiencies and environmental factors for job quality to have a substantial influence. There is little scientific evidence (especially in the economics literature) regarding the sensitivity of this population's behavior to various incentives, including the attractiveness of the jobs they hold.

Absenteeism is one of a range of behaviors that reflect a worker's attitude and commitment to his job and perceptions of his value as an employee. This study attempts to gauge the effects of job characteristics and personal background factors on absenteeism from work among inner-city black men between the ages of 16 and 24. The study places central emphasis on the effect of job quality. The results provide strong evidence that job quality does affect absenteeism, but in a more complicated way than is usually supposed.

The results show that many direct and indirect job benefits, such as the wage paid and the amount of prestige attached to the job, reduce the incidence of absenteeism markedly. On the other hand, both theoretical and empirical results suggest that a rational worker may be absent more often, other things being equal, the greater the marketability of the skills he has learned on the job and the greater the value of his experience as a signal to future employers. Hence, if a "dead end" job is defined as one that adds little or nothing to a worker's stock of human capital, less dead-end jobs may in fact produce less reliable workers.

For empirical purposes, less dead-end jobs will be represented by jobs in which there is a higher probability of a long-term attachment to the *industry* in which the worker is employed. The presumption is that among occupations held by inner-city black youths, those that lead to a high level of industry attachment do so by developing industry-specific human capital and hence more security and mobility within the industry. There is, of course, an alternative interpretation, namely, the lack of interindustry mobility could imply a more dead-end job if the job holder is stuck in the same job with no opportunity for change

or advancement. This explanation seems unlikely, however, since industry retention rates are in fact highly positively correlated with the desirable characteristics of both jobs and workers. Given this definition, developed and defended below, reducing the dead-end nature of a job will enhance the worker's welfare but may increse his absenteeism.

Finally, it is found that the various job characteristics discussed above (as well as the length of the commuting time to the job and the style of supervision) are as important as, and perhaps more important than, employee characteristics in determining absenteeism. Among employee characteristics, directly measured personality and aptitudes have significant explanatory power. But once these are controlled for, more general environmental and family background variables appear to add little to our ability to understand absenteeism.

Data for the study come from the 1979–80 NBER Survey of Inner-City Black Youth. The survey provides a myriad of data on the daily activities, personality, family, environment, academic background, and labor market of each of over 2,300 black men aged 16 to 24. The youths surveyed were randomly selected from city blocks that, according to the 1970 Census, had at least 70 percent black residents and 30 percent families below the poverty line in income. Those studied for the present report are the approximately 70 percent who held regular jobs for ten days or more at some time during the year preceding the interview. Absenteeism on the most recent job is the primary subject of analysis.

Other data sets that contain measures of absenteeism are not nearly as rich as the NBER youth data in their coverage of important job and worker characteristics. Thus, the NBER data enable the elimination of more sources of possible omitted-variables bias. Still, the NBER data are less than ideal and impose certain constraints on the scope and method of the analysis. First, the measure of absenteeism is ordinal rather than cardinal: each respondent was asked whether he was never, rarely, sometimes, or often absent not because of illness; absent due to illness; or tardy. Although the current study focuses on absenteeism not due to illness, estimates for absenteeism due to illness and tardiness will also be discussed.

The second limitation imposed by the data is that, since they cover only black men between 16 and 24 years of age, important comparisons with other demographic groups are not possible. Third, the data are cross-sectional, so the same worker cannot be observed in different employment settings. This leaves the interpretation that there is a strong causal link between job characteristics and absenteeism open to the criticism that some part of the influence we attribute to job characteristics is really the result of unobserved worker characteristics that affect both absenteeism and the quality of the job that the individual can obtain.[2] Arguments presented later explain why it is highly unlikely

that unobserved worker characteristics are an important source of bias in this study.

There are very few absenteeism studies by economists with which to compare the current undertaking.[3] This is somewhat surprising, since roughly as many hours are lost each year due to absenteeism as from strikes and layoffs in the U.S. economy. Allen (1981*b*) conducted a study of absenteeism, using the 1972–73 Quality of Employment Survey (QES), in which he included race as one of several personal characteristics in a cross-sectional analysis. His results were similar to those of this study insofar as he found that job characteristics affect absenteeism and that "most easily observable personal characteristics [were] unrelated to work attendance" when important job characteristics were held constant. Allen also found that race had no statistically significant impact on absenteeism. This finding, he claimed, was "not at all consistent with 'vicious circle of poverty' or 'ghetto pathology' theories of nonwhite vocational behavior." Observed differences between white and nonwhite adults could largely be accounted for by differences in marginal earnings, scheduling flexibility, and health. Although there were differences in the specific job characteristics analyzed, Allen's finding that job characteristics play a decisive role in affecting employee behavior is consistent with the findings reported below. Unfortunately, the QES data set used by Allen did not include sufficient numbers of youths to judge whether his findings would extend to young people as well as adults.

This paper proceeds first through a simple expositional model, then presents comparative statics that describe the effects of variations in wages, status, and security on absenteeism. From there, variables used in the empirical analysis are defined, and a summary is given of parts of the analysis for which quantitative results are not reported here. In particular, a long list of personality and environmental variables that did not affect absenteeism directly is summarized. Empirical estimates are then given for both ordinary least squares (OLS) and ordered probit coefficients from the absenteeism equation. The quantitative effect on absenteeism of variation in each of the independent variables is discussed. Job quality and worker characteristcs are found to be of similar quantitative importance. Finally, the major findings are reviewed and some of their implications are discussed.

The decision to skip work is a time allocation decision reflecting a balancing of the costs and benefits of alternative uses of time. Some common inducements for employees to skip work are that they are sick, they have other "business" (such as a job search or other income opportunities) to take care of, they wish to engage in some form of leisure, or they desire to avoid some unpleasantness in the work environment. On the other hand, incentives to avoid, or the costs of,

absenteeism include lost pay, the possible embarrassment of later being questioned or reprimanded, a lower probability of promotion, and the possibility of being fired from the job. The conceptual foundation and empirical analysis of this paper rests on all of these costs and benefits of absenteeism. For expository simplicity, however, the theoretical model in the next section will focus on leisure consumption as the benefit from increased absenteeism and forgone earnings and the risk of job loss as the costs. In addition, explicit consideration of variations in tastes and environments will be deferred until after the following section, which may be passed over by the less technically inclined reader.

7.2 A Theoretical Model of Absenteeism

The view of the labor market underlying the behavioral model presented in this section is best characterized as a job search–turnover model. The distribution of workers across jobs at any given time results from matches made in the past. Due to imperfect information, costs of adjustment, and risk aversion, recontracting does not take place continually in order to adjust instantaneously to every change in market conditions.[4] Thus, at any particular time, identical people may not achieve exactly identical levels of utility, and every worker may not be employed at what would be his or her globally optimal position if the conditions of the standard competitive model held absolutely.

This analytical perspective highlights the fact that even when differences in tastes and personality can be effectively controlled, there may remain differences in job situations that can lead to differences in behavior. Youths with similar tastes and abilities may differ in how well they like their jobs. Thus, there may be behavioral differences that are unrelated to tastes and personal characteristics.

An approach that would be consistent with a static competitive model would be to assume that a worker chooses simultaneously his job and his expected behavior on that job. The model here, however, assumes that these choices are basically sequential, with the worker first taking the best available job that he knows of (providing, of course, that that job is above his reservation standard of acceptability) and then deciding on appropriate behavior on that job as a function of how much he likes the job and how much he would mind losing it. The quality of the best available job is measured in terms of the wage it pays, the status it offers, the skills it teaches, and so on and is not a choice variable (aside from conventional considerations of optimal length and intensity of search). It is given by current market conditions and employers' impressions of the applicant, each of which the applicant has no real control over in the short run. The following model therefore abstracts from

the choice of job, takes job characteristics as given, and focuses on the decision regarding how much to be absent as a function of the three job characteristics most commonly examined in studies of minority youth employment problems: wages, status, and the dead-end nature of jobs (or the opportunity to acquire useful human capital).

7.2.1 A Two-Period Model

The rewards of work include psychic benefits and income that enables the worker to purchase commodities to enhance the quality of leisure time. Additionally, there are various ways in which working in the present helps to enhance prospects for a happy future. To look more closely at aspects of the labor-leisure decision that will be at the center of the empirical analysis, let us consider a two-period model in which a worker wishes to maximize the sum of present plus future utilities. Currrent-period consumption of leisure in this model is balanced against two categories of costs: forgone income and a reduction in the expected value of future utility.

On most jobs there is some agreement, usually explicit, regarding how many hours per week a worker is expected to work unless he is ill. Say that this number is 40 and that 40 is the maximum number of hours one can work on the job under consideration. In this model, when a worker chooses to work fewer than 40 hours, he risks forfeiting the chance to work for his current employer in the future, that is, he risks being fired. If he loses his job he will either find another job or become unemployed.

An objective function can be specified to represent the sum of present plus expected future utilities. Let U_{1a} represent the current-period utility, which captures the enjoyment that comes from current consumption of leisure (L), status (S), and income (Y). Income (Y) is the product of the hourly wage rate (w) and the number of hours (T) per week that the worker chooses to work, such that $T = 40 - L$. If K represents the degree to which the job teaches specific skills, then U_{1a} becomes:

$$U_{1a} = U_{1a}(L|w,S,K).$$

The expected value of future utility is the sum of two terms. U_{2b} is the utility the worker will experience in the future if he loses his job and has to find another or becomes unemployed.[5] There is a known probability (P) that a worker will lose his job. P can be influenced by his behavior on the job and may also be a function of job characteristics. If the worker is not laid off or fired, and if the second-period utility (U_{2a}) of staying with his current employer exceeds U_{2b}, then he will remain with his first employer. This will occur with probability $1 - P$. Hence, the two terms whose sum represents the expected value of the second-period or future utility are: PU_{2b} and $(1 - P)U_{2a}$. Some rear-

rangement allows the sum to be written: $U_{2a} - P(U_{2a} - U_{2b})$. Comparative statics will be carried out below under the assumption that $U_{2a} > U_{2b}$. U_{2a} and U_{2b} will be treated as exogenous insofar as they will be unaffected by the worker's choice of how much leisure to consume in the first period. On the other hand, various exogenous forces can cause U_{2a} and U_{2b} to change in ways that affect the intertemporal trade-off embodied in the current period labor-leisure decision, thereby affecting the optimal choice of first-period leisure, L^*.

For expository ease assume that the worker's rate of time preference is zero, so that his two-period expected utility can be expressed as:

$$E(U) = U_{1a} + U_{2a} - P(U_{2a} - U_{2b}). \tag{1}$$

Maximization by choice of current leisure (L) gives the following first-order condition, where superscripts will be used throughout to indicate the variable(s) with respect to which the derivatives have been taken:

$$\begin{aligned} E^L(U) &= U^L_{1a} - U^Y_{1a}w - P^L(U_{2a} - U_{2b}) \\ &= 0 \text{ when } L = L^*, \end{aligned} \tag{2}$$

where $U^L_{1a} > 0$, $U^Y_{1a} > 0$ *and* $P^L > 0$. (Assume that U_{1a} is quasi-concave and that P^{LL} is nonnegative. This ensures that $E^{LL} < 0$.)

The first-order condition in equation (2) can now be totally differentiated to explore the impact of exogenous forces on the optimal level of leisure consumption in period 1. The following three comparative static experiments provide a basis for several of the interpretations in the empirical section that follows.

7.2.2 Comparative Statics

From the perspective of a youth who has found a job that satisfies or exceeds his minimal requirements, the characteristics of the job can be taken as given parameters. This subsection will examine the comparative static implications of changes in three job characteristics of particular interest. The wage, status, and skill contents of a job are probably the three most important aspects of job quality determining attractiveness to inner-city black youths. Discussions of the demeaning aspects of "menial" jobs focus on the facts that these jobs pay low wages, attract little respect from society at large, and teach few skills that might lead to employment security and upward social mobility.[6]

Advocates of the provision of better jobs for minority youths argue that jobs with higher wages, greater status, and more training will induce more stable and acceptable behavior. The following comparative static experiments examine whether or not these predictions hold true for utility-maximizing youths.[7]

Case 1. Wages

In this case we analyze the impact on L^* of an increase in wages (w). The question that interests us here is how a worker's optimal leisure might differ on two jobs that differ only in that one pays a slightly higher wage both in the present and the future. Both U_{1a} and U_{2a} are thus affected.

If we apply the implicit-function theorem to equation (2) and assume that the appropriate second-order condition ($E^{LL} < 0$) holds, the sign of L^{*w}, which gives the direction of the impact of w upon L^*, must be the same as the sign of E^{Lw}. Hence, we need only to examine the following equation:

$$(3) \quad sgn\, L^{*w} = sgn[U_{1a}^{LY}T - U_{1a}^{YY}wT - U_{1a}^{Y} - P^{L}U_{2a}^{w} - P^{Lw}(U_{2a} - U_{2b})].$$

This expression does not have an unambiguous sign. U_{1a}^{LY} is positive because an increase in income enhances the marginal utility of leisure, and $-U_{1a}^{YY}wT$ is positive under the usual assumption of the diminishing marginal utility of income. These two terms together represent forces pushing toward more consumption of leisure (absenteeism) at higher wages. In situations in which these terms dominate, workers are said to be on the backward-bending portion of their labor-supply curves. Readers who believe that most inner-city youths work to achieve target current incomes with little or no concern for future earnings should expect these terms to exceed the sum of the absolute values of the other terms in equation (3) and therefore to produce an empirical finding that higher wages lead to greater consumption of leisure.

Forces pulling in the opposite direction are captured by $-U_{1a}^{Y}$ and $-P^{L}U_{2a}^{w}$ and probably by $-P^{Lw}(U_{2a} - U_{2b})$. If a nonzero rate of time preference were in the model, it would multiply the last two terms. The greater a worker's concern for the future relative to the present, the stronger the influence of $-P^{L}U_{2a}^{w}$, which, other things equal, influences him to consume less leisure as w rises. Similarly, the greater the first-period marginal utility of income (U_{1a}^{Y}), the more likely the worker will be on the upward-sloping section of his labor-supply curve. Finally, it is likely that after controlling for other job and personal characteristics, we will find that employers paying higher wages can more easily replace discharged workers and will therefore be less tolerant of absenteeism, rendering $-P^{Lw}$ negative. Which forces are in fact stronger, the negative or the positive, is an empirical question that will be answered by the statistical analysis below.

Case 2. Status

In the United States "you are what you do." A major component of the nonpecuniary payoff to being employed in any particular oc-

cupation derives from the status or respectability of the occupation in the eyes of society at large. When someone accepts a job that pays less money than some alternative opportunity, it is often the case that he is trading income for prestige. It is in the same spirit to hypothesize that people also pay for status through the forfeiture of leisure. An example would be someone who is absent from work less on a higher-status job because he is more concerned about losing the job, and with it his social standing, than he would be on a lower-status job. The notion that status has a positive impact on utility is captured in the model by the assumption that both U_{1a} and U_{2a} are increasing functions of the status associated with the worker's current job.

An additional effect of status is likely to be that the higher the status of the job, the lower the marginal disutility of work. On a more prestigious job workers can be expected to feel better about themselves. They will therefore feel less demeaned while doing the job and may even miss it more when absent. This phenomenon can be embedded in the model through the assumption that the higher the status of the job, the lower the marginal utility of being absent. This can be represented symbolically as $U_{1a}^{LS} < 0$, where S = status.

For some purposes it is useful to think of status as a component of real income. One such instance is when investigating the effect of additional status on the marginal utility of money income. The assumption of a diminishing marginal utility of real income leads to the conclusion that added status reduces the marginal utility of money income Y (at constant prices). Symbolically, this can be written as $U^{YS} < 0$. This conclusion follows as long as status and purchased consumer goods are to some extent substitutes.

It is almost certainly true that there are systematic variations in personnel practices across jobs of differing levels of status and that a dimension of these variations is a difference in the effect of absenteeism on the probability of being fired. In other words, it should be assumed that $P^{LS} \neq 0$. Unfortunately, however, the sign of P^{LS} could plausibly be either positive or negative.

Assuming that $U_{1a}^{LS} < 0$, $U_{2a}^{S} > 0$, $U_{1a}^{YS} < 0$, *and* $P^{LS} \neq 0$, the following equation expresses the marginal effect of status on optimal leisure (L^*):

$$(4) \quad sgn\, L^{*S} = sgn[U_{1a}^{LS} - wU_{1a}^{YS} - P^{L}U_{2a}^{S} - P^{LS}(U_{2a} - U_{2b})].$$

Although it deserves a place in the formal analysis, U_{1a}^{YS} should be expected to be very small for inner-city black youths and therefore unlikly to be decisive in determining the sign of equation (4). If P^{LS} is positive (or sufficiently small in absolute value if negative), the sign of L^{*S} will be negative, implying that higher status produces lower absenteeism. But if employers providing higher-status jobs are substantially more tolerant of absenteeism (P^{LS} is both negative and of sub-

stantial magnitude), L^{*S} may be positive. Thus, the actual effect of job status on absenteeism remains a question for empirical study.

Case 3. Skills

Consider a variable K that represents the level of industry-specific human capital embodied in a worker. Such capital may be accumulated through on-the-job experience, through organized training, or through both. In general, the more K a worker has, the more costly it is to find someone to replace him. One should therefore expect that firms are less prone to fire people for marginal increases in absenteeism in jobs in which the level of K tends to be high than in jobs in which K tends to be low. In other words, one should expect P^{LK} to be negative for most industries.

If there is any systematic effect of K on job satisfaction, it is likely to be positive, since workers are more likely to enjoy skilled than unskilled work. Other things equal, the marginal utility of being absent is lower when direct enjoyment from work is higher, such that $U_{1a}^{LK} < 0$, and $U_{2a}^{K} > 0$ in equation (5) below. These terms are directly analogous to U_{1a}^{LS} and U_{2a}^{S} in equation (4). In both equations (4) and (5), these terms represent forces pulling absenteeism (leisure) downward.

In equation (5), however, U_{2a}^{K} is more than offset by U_{2b}^{K}, which pulls in the opposite direction. It is reasonable to assume in a model like this, in which the current period is implicitly very short and the menu of opportunities fixed, that the difference $U_{2a} - U_{2b}$ is positive. Nevertheless, $U_{2a} - U_{2b}$ is not the same across all types of people and jobs. People with industry-specific skills will generally have employment alternatives that differ less from their current jobs than the alternatives of most people without such skills. Thus, in most situations the difference $U_{2a} - U_{2b}$ will be a decreasing function of K: $(U_{2a} - U_{2b})^{K} < 0$. Encapsulating the discussion of the last few paragraphs, equation (5) gives the sign of the impact of K on L^{*}, such that:

$$(5) \qquad sgn\ L^{*K} = sgn\ [U_{1a}^{LK} - P^{LK}\ (U_{2a} - U_{2b}) - P^{L}(U_{2a} - U_{2b})^{K}].$$

To summarize, equation (5) shows that the forces affecting the impact of K on a worker's absenteeism are of three general types: the pleasure of working on a job at which he is skilled; the lower probability of being fired for an incremental increase in absenteeism, since he can less easily be replaced; and the fact that the greater his endowment of specific skills, the better his alternatives relative to his current job, and hence the less he will suffer if he is fired. The first type implies a negative influence of K upon absenteeism, while the second and third imply positive effects. As with the wage rate (w) and status (S), the sign of the influence of K on L cannot be ascertained through theory alone.

The claim that the provision of better jobs will automatically induce better behavior on the part of inner-city black youths is not a conclusion that can be reached directly from microeconomic theory and must, therefore, rest on empirical verification. For the three variables w, S, and K, comparative statics have shown the main forces that might cause absenteeism to increase or decrease with improvement in job quality. The estimated results will distinguish which forces dominate.

7.3 Variable Definitions

The model presented in section 7.2 provides the conceptual foundation of the empirical analysis that follows. A primary goal of the analysis is to establish whether and to what degree the three dimensions of job quality studied above affect absenteeism among members of the NBER data set. To accomplish this, we must hold constant other job characteristics and personality factors that affect absenteeism. The variables employed for this purpose will be defined below. First, however, the three job-quality measures of primary interest—those corresponding to w, S, and K above—will be introduced.

7.3.1 Empirical Measures of Job Quality

Two of the three job characteristics in the model above have close empirical counterparts. A measure of hourly salary (*HRSAL*) on the worker's most recent job has been constructed from the NBER data set by simply dividing weekly before-tax earnings by hours worked for each youth in the sample. To arrive at a measure of job status, three-digit census occupation codes, based on what the respondent said he made or did, have been matched with the Duncan index that ranks occupational codes by socioeconomic status. The Duncan index has been widely employed in the social science literature and is commonly accepted as a measure of how Americans perceive the relative status of occupations. For each young man in the sample the value of the variable *STATUS* equals the value of the Duncan index for his reported occupation.

Besides *HRSAL* (w) and *STATUS* (S), the third job characteristic in the model above is K, which is used to indicate each worker's level of industry-specific skill. Although there is no widely accepted measure of K, there is a relatively new index that comes as close as any we know of to capturing what K represents. Consider the following questions: Why will young people in some occupations remain affiliated with one industry over much of their adult lives, while others will not? What do those who stay within their respective industries have in common, and how do they differ systematically from otherwise similar young people who move around from one industry to another?

Clearly, there are many narrow and specific answers that can be posited to explain behavior in particular industries and occupations. In general, however, besides the possibility that "stable" workers are less desirable workers and hence "locked into" their jobs (an explanation dismissed elsewhere in this paper), there seems to be only one overarching explanation for the systematic patterns we observe: young people in occupations in which industry-specific skills are developed will tend to retain affiliations with the industries in which their skills are most valuable. On the other hand, workers who find it necessary or desirable to move from industry to industry are likely to have less of a comparative advantage in what they are doing for a living at any particular time. They are therefore likely to be easier to replace and to feel less sure of landing jobs as satisfying as the ones they have if they lose them. In other words, they will have higher values of $U_{2a} - U_{2b}$.

This explanation is reinforced by the fact that in certain industries, prospective employers gain valuable information if they know that a job applicant has worked in a job similar to the one for which he is applying. In addition to specific skills, previous experience can be assumed to have provided the applicant with better information about the attributes of the job than is available to other members of the labor force, and therefore to increase the probability that the applicant is better suited to the job than a randomly selected individual. The value of this information will differ systematically across occupations, being higher where the cost of poor worker-to-job matches is higher and where the perception among the general public concerning what the job entails is vague or inaccurate. This effect, together with the development of industry-specific skill, is surely what most often explains the prolonged industry attachment observed for members of certain occupations. They combine to give workers greater security and intra-industry mobility.

Brown (1982) has computed an index from the 1970 Census 1/100 file, using three-digit occupation codes and young men with fewer than ten years of work experience, that ranks each occupation by the probability that a worker in the occupation will be in the same industry at two observations in time five years apart. This index is thus a ranking of occupations by industry retention rates and hence is an appropriate measure to represent the variable K. It is important to realize that these are industry, not firm, retention rates. Indeed, among the young workers analyzed by Brown and in the current study, very few remained with a single employer for anything approaching five years.[8] Brown's index has been matched with our sample, and in the analysis below it will be represented by a variable called *SPECSKILL*, for industry-specific skill. The most common occupations held by members of the

NBER sample, along with the corresponding values of *STATUS*, *SPECSKILL*, and mean values of *HRSAL*, are listed in table 7.1.

7.3.2 Other Job Characteristics

The NBER data set permits examination of several other job characteristics besides those discussed above. These include the respondent's perception of whether his boss shows prejudice or favoritism; how long, on average, it takes to learn the job; whether the job is part of a government program (such as CETA); the boss's race; and whether the workplace is unionized. This study tests all of these in various empirical specifications.

The only variable from this list found to bear a significant relationship to absenteeism was the respondent's perception of whether his boss showed "prejudice or favoritism to people on things other than how well they (do/did) on their job." In the results reported below this variable is called *BOSSBIAS*. *BOSSBIAS* equals one for biased bosses and zero for unbiased bosses. Regressions including the other job characteristics listed above (added both collectively and individually to the specifications reported below) show statistically insignificant coefficients and leave the pattern of signs and statistical significance reported below intact. Having been listed here, they therefore will not be further discussed. An interesting aside, however, is that although the race of the boss has little independent effect on absenteeism, it is highly correlated with *BOSSBIAS*. The percentages reporting biased bosses were 15.7 for those with black bosses, 26.0 for those with white bosses, 20.0 for those with Hispanic bosses, and 14.0 for those with bosses of other races. The numbers of respondents reporting bias were 99, 172, 5, and 6 in the four boss's race categories, respectively.

An additional job characteristic is the length of the commute to work in minutes. Clearly, one would expect that the longer or more arduous the journey to work, the more often a person might choose not to go. This is included in the analysis below under the label *COMMUTE*. The mode of commuting was included in a regression not reported here. Its estimated influence was small and statistically insignificant.

7.3.3 The Opportunity Costs of Time at Work

The literature on men in the age bracket under consideration here (16 to 24 years old) tends to emphasize two categories of leisure time activity: illegal activity and "hanging out" with friends. To capture the opportunity cost associated with illegal activity, we included in the regressions a dummy variable called *ILLEGAL*, which takes on a value of one if the respondent reported having received an average of more than one dollar per week of income from illegal sources during the year

Table 7.1 **Most Common Occupations of NBER Survey Respondents**

Occupation Title	1970 Census Code	Sample Size	Duncan Index	Retention Index	Average Hourly Wage (STD.)
Retail Sales Clerks	283	23	41	.5220	$3.22 (1.47)
Shipping Clerks	374	20	24	.5158	4.26 (1.87)
Stock Clerks	381	55	44	.5562	3.76 (2.19)
Teachers' Aids	382	27	63	.6000	3.14 (0.95)
Painters (Construction and Maintenance)	510	40	16	.6623	4.42 (1.91)
Machine Operators (Specified)	690	22	19	.5630	4.16 (1.37)
Delivery Men	705	20	31	.4626	4.51 (3.03)
Construction Laborers	751	52	7	.3924	4.67 (2.49)
Materials Handlers	753	38	9	.5217	4.30 (2.18)
Stock Handlers	762	65	17	.4927	3.68 (1.70)
Cleaners and Charwomen	902	96	8	.4365	3.35 (0.96)
Janitors	903	196	13	.5074	3.53 (1.44)
Cooks	912	72	15	.5172	3.43 (0.79)
Dishwashers	913	35	11	.3846	3.20 (0.49)
Food Service Workers	916	50	11	.3667	3.42 (0.67)
Amusement and Recreation Attendants	932	35	19	.5667	3.07 (0.98)
Child Care Workers	942	34	28	.5455	2.96 (0.53)
Guards and Watchmen	962	54	18	.5944	3.53 (0.73)

Note: Included are all occupations containing 20 or more individuals in the NBER sample. STD = standard deviation.

before the survey. Fourteen percent of the sample fall into the group for whom *ILLEGAL* equals one.

To capture the effect of peer group "street activity," we constructed a variable for the level of employment among close friends. Each respondent was asked whether it was true, somewhat true, or not at all true, that "most of your friends are unemployed." The variable *PEERS* formed from this question had no perceptible relationship to absenteeism. Both simple correlation coefficients and coefficients estimated in multivariate contexts concurred. *PEERS* was therefore omitted from the regressions whose results are reported below. In those in which it was included, it had virtually no impact on the estimated coefficients for the other independent variables.

7.3.4 Personality and Personal Background

An exhaustive array of personality and personal background measures is indispensable in determining whether the coefficients estimated for *HRSAL, STATUS,* and *SPECSKILL* reflect the true effects of job variation rather than the effects of omitted personality measures. Fortunately, the NBER data set contains such an array.

More than 20 personality and personal background measures were tested, both all at once and in a number of different combinations. Except for the small group whose estimates were consistently statistically significant, and which are inlcuded in the results reported below, the inclusion of these additional variables had virtually no effect on the estimated coefficients and t-statistics of *HRSAL, STATUS,* and *SPECSKILL*; these independent variables had small estimated coefficients and produced t-statistics that seldom exceeded 1.0. To check that multicollinearity was not the problem, we tested the variables that typically showed up as insignificant one at a time with the specification for which estimates are reported below. None was statistically significant at or near conventionally accepted levels.

The variables of particular interest that had no significant influence on absenteeism were marital status; the personal importance of religion and the frequency of church attendance; agreement or disagreement with the belief that "if you work hard and get a good education you'll get ahead in America"; peer group employment status; age; and several family background measures, such as whether there was a working adult in the home when the respondent was 14 years old, whether at age 14 he lived with both parents, one parent, or someone else, and whether he lived at home at the time of the NBER interview.

In addition to *ILLEGAL,* which was discussed above, four variables in the personality and personal background category stand apart from those listed in the previous paragraph by having an important impact on absenteeism. They are grades, voter registration status, the re-

spondent's perception of the difficulty of finding another job if he had to, and the number of years of education completed. Apparently, these four variables capture the dominant personality and background traits that are quantitatively important determinants of job attendance. It is highly unlikely that there is some other omitted variable that substantially affects absenteeism and is not highly correlated with at least one of the personality and background variables tested.

As a basis for the variable *GRADES*, respondents were asked whether in the last year of school completed they earned mostly A's, half A's and half B's, mostly B's, and so on. *GRADES* thus takes on seven values in our analysis, ranging from 7 for mostly A's to 1 for mostly D's and below. The logical connection of *GRADES* to absenteeism is straightforward: people who earn high grades are usually more self-disciplined, more conformist, more apt to achieve success through conventional channels, and more eager to please authority figures. Each of these tendencies weighs against the probability of engaging in frivolous absenteeism. *GRADES* may also indicate more intelligence and therefore individuals who both perceive the consequences of irresponsible behavior and have lower rates of time preference, making them more concerned with the future consequences of current actions.

Being registered as a voter indicates that one has accepted some measure of adult responsibility. A registered voter among youths 24 years of age or under is more likely to be mature and will conduct himself on the job in a fashion consistent with this maturity. *VOTE* equals one for registered voters, zero for those old enough to vote but not registered, and .52 for those not old enough to be registered (.52 is the fraction of registered voters in the sample among those who are old enough to vote).

Respondents in the NBER survey were asked to rate on a scale of very easy (1), somehwat easy (2), difficult (3), or impossible (4), how hard it would be to find each of six potential jobs: factory laborer, office clerk, check-out clerk in a supermarket, cleaning up neighborhoods, working at a fast-food place, and working at any job at the minimum wage. The question was asked of both employed and unemployed youth. A variable *DFINDJ* representing the perceived difficulty of finding a job has been constructed as the sum of the numerical answers to these six questions. Thus, the possible range for *DFINDJ* is from 6, for respondents who answered "very easy" to each job question, to 24, for respondents who answered "impossible" six times. The mean of *DFINDJ* in the sample is 12.56 with a standard deviation of 3.14. This finding implies that the typical member of the sample did not regard the entry-level labor market as being particularly tight. On the other hand, youths did believe that it was more difficult to find office clerk

and factory laborer jobs which they probably regarded as the more attractive possibilities among those listed. Other things equal, we would expect people with low values of *DFINDJ* to be more careless about losing their jobs than people with high values (those who believe jobs are hard to find).

The final personal background variable to be defined is *ED*, which is simply equal to years of schooling completed. *ED* has a mean value in the sample of 10.9 and a standard deviation of 1.5. The sign that should be expected for the relationship between *ED* and absenteeism is not obvious. If the predominant effect of *ED* in the equation is to proxy positive personality traits, then it should be negatively correlated with absenteeism. On the other hand, if people with more education are treated more permissively or have more and better job opportunities than those with less education, then they may be absent more often because they are less afraid of losing their jobs, other factors held constant.

If absenteeism can lead to involuntary dismissal, which our estimates suggest is likely, one might expect a negative relationship between absenteeism and tenure on the job, with the causal link running from absenteeism to tenure. But there is also reason to believe that workers with longer job tenure may be less dispensable and therefore less likely to be fired for any given level of absenteeism. In addition, workers with longer tenure on a job (particularly those who have passed a probationary period) are likely to be governed by more lenient work rules. Both of these factors imply a positive relationship between absenteeism and tenure, and therefore, both *TENURE* and *TENURESQ* have been included in estimated equations.

TENURE is the length of employment on the most recent job and is measured in months. It has a mean of 7.3 and a standard deviation of 10.6. We acknowledge the possibility of simultaneity bias resulting from the effect of absenteeism on involuntary dismissal. Nevertheless, to the extent that the estimated effect of *TENURE* on absenteeism is significant and positive in the results reported below, the negative bias is probably minimal. It is also the case, however, that individuals with very short job tenure may be more likely to answer that they are "never absent" simply because they have not been on the job long enough for their underlying propensities to become evident.

7.4 Determinants of Absenteeism: Estimated Results

7.4.1 Estimation Method

As discussed earlier, the measure of absenteeism used as the dependent variable in this study is derived from answers to the following

question: On your most recent job, "how often would you say you miss(ed) a day for other reasons besides being sick?" Respondents were asked to answer: "often," "rarely," "sometimes," or "never." The young men in our sample are the 71 percent of the NBER sample who had at least one period of regular employment lasting ten days or longer during the year preceding the interview. Of that 71 percent, the number responding with each of the four possible answers is given in table 7.2. Taking into account that the question excludes sickness as a reason for skipping work, the distribution of answers seems plausible.

In order for ordinary-least-squares (OLS) regressions to yield best-linear unbiased estimates, the assumptions of the Gauss-Markov theorem that the error term has an expected value of zero and constant variance must be satisfied. The theorem fails for qualitative and ordinal dependent variables that fall into a small number of discrete ordered categories. Given the assumption that there is some underlying continuous dependent variable that has been partitioned in a monotonic way and assigned to a small number of discrete categories, OLS regressions will generally produce statistically inconsistent estimates of the marginal effects of independent variables, appropriately adjusted for scale. Recognizing this, we have chosen to report both OLS and ordered probit estimates for the effects of the independent variables on absenteeism.[9]

7.4.2 Estimated Results

Table 7.3 reports the results for the various estimates. The answers "often," "sometimes," "rarely," and "never" were grouped in three different combinations for probit estimation. The combination reported in the second column of table 7.3 takes each of the four as separate and is called *PROBIT4*. *PROBIT3* pools "often" and "sometimes" into one category, while keeping "rarely" and "never" separate. The last column, *PROBIT2*, reports results for a binary probit in which "rarely" or "never" and "often" or "sometimes" are the two group-

Table 7.2 **Sample Frequencies for Job Behaviors**

	Absenteeism not Due to Illness		Absenteeism Due to Illness		Tardiness	
	Number	Percent	Number	Percent	Number	Percent
Often	29	1.8%	35	2.2%	47	3.0%
Sometimes	138	8.7%	190	12.0%	218	13.8%
Rarely	439	27.7%	547	34.5%	511	32.3%
Never	978	61.7%	812	51.2%	808	51.0%

Note: $N = 1584$

ings. Because of differences in scaling, the magnitudes of the coefficient estimates are not directly comparable across columns.

Examination of table 7.3 shows that the coefficient estimates are generally twice their standard errors and that, with a couple of interesting and explainable exceptions, the pattern of signs is what would be intuitively expected.

Let us concentrate first on the estimates for the focal job quality measures: *HRSAL, STATUS,* and *SPECSKILL.* These estimates tell an interesting and believable story. In a nutshell, they suggest that youths in the sample value money and status and are better employees the more money and status their jobs afford them, other things equal. At least as far as absenteeism is concerned there is no evidence that the income effect of higher wages dominates the substitution effect.

Table 7.3 **Estimated Results for Absenteeism as the Dependent Variable**

Independent Variable	OLS	PROBIT4	PROBIT3	PROBIT2
CONSTANT	−.03	−3.20	−2.39	−1.74
	(.18)	(.32)	(.32)	(.50)
HRSAL	−.018	−.033	−.034	−.081
	(.009)	(.020)	(.020)	(.035)
STATUS	−.0034	−.0054	−.0059	−.014
	(.0014)	(.0024)	(.0024)	(.004)
SPECSKILL	.72	1.21	1.24	2.12
	(.22)	(.38)	(.39)	(.60)
BOSSBIAS	.088	.13	.14	.25
	(.048)	(.08)	(.08)	(.12)
COMMUTE	.0020	.0032	.0031	.0042
	(.0008)	(.0013)	(.0013)	(.0019)
ILLEGAL	.15	.25	.27	.24
	(.05)	(.09)	(.09)	(.13)
GRADES	−.032	−.057	−.062	−.060
	(.014)	(.024)	(.024)	(.037)
VOTE	−.10	−.16	−.16	−.24
	(.04)	(.07)	(.07)	(.11)
DFINDJ	−.10	−.015	−.014	−.032
	(.06)	(.010)	(.010)	(.016)
ED	.034	.067	.071	.034
	(.013)	(.023)	(.024)	(.036)
TENURE	.026	.051	.054	.017
	(.007)	(.012)	(.012)	(.017)
TENURESQ	−.00035	−.00086	−.00090	−.00014
	(.0021)	(.00036)	(.00036)	(.00051)

Note: The magnitudes of the estimates are not directly comparable across columns because of scaling. Standard errors are in parentheses.

Similarly, the positive terms in equation (4) showing the effect of status on absenteeism appear empirically to dominate the negative terms. In jobs, however, in which the industry retention rate (and hence *SPECSKILL*) is high, young men in the sample were more inclined to be absent than on jobs that, in this dimension, would appear to be less attractive.

Theoretically, the most reasonable alternative interpretation of the results found here is that the estimated coefficients on *HRSAL*, *STATUS*, and *SPECSKILL* reflect not the impact of job characteristics on employee behavior, but rather the impact of unobserved personality traits. If the market has efficiently sorted the worst workers into the worst jobs and the best workers into the best jobs, and if there exist unmeasured dimensions of worker quality that because of this sorting are highly correlated with job quality, then statistically significant coefficients for the job quality measures might indicate only the effects of these omitted personal characteristics. The weight of evidence, however, is inconsistent with this hypothesis, while being highly consistent with the hypothesis that job characteristics influence worker behavior. Three distinct arguments can be given to support the contention that job quality, not personal characteristics, is responsible for the results.

First, if the estimated results reflect solely an efficient sorting of better and worse employees into more and less attractive jobs, the highly significant coefficient found for *SPECSKILL* has the *wrong* sign. Simple correlations of the characteristics of the respondents with *SPECSKILL* indicate that those youths with high values of *SPECSKILL* are the "higher quality" youths. For example, *SPECSKILL* is positively and significantly correlated with grades, employment among the individual's peers, wages, status, the youth's assessment of how satisfied he is with the job, and the tendency to avoid illegal sources of income. Since even the simple correlation between *SPECSKILL* and absenteeism is positive, the estimated impact of *SPECSKILL* on absenteeism should not be a statistical artifact resulting from, for example, some complex form of multicollinearity. Nor does time preference explain this behavior, unless one is willing to make the counterintuitive assumption that workers with the least concern for the future are the most likely to take jobs with high industry retention rates.

Various theoretical explanations for why high levels of industry-specific skills might lead to higher absenteeism were spelled out above in section 7.2.2 (Case 3). The theoretical reasons suggested there were that either the marginal effect of absenteeism on the probability of being punished or involuntarily dismissed from the job is smaller in occupations with high levels of industry-specific skills, or that the average difference between the current job and the next best alternative ($U_{2a} - U_{2b}$) is smaller in those occupations. Employment in a job that

requires or teaches an industry-specific skill, or that gives the job holder a credential that leads to long-term association with an industry, also gives the job holder greater general security. Hence, the results found here suggest that greater security may lead to higher rates of absenteeism.

The second argument in support of the interpretation that job quality and not unobserved personal characteristics gives rise to the results found here is that the coefficient estimates for the focal job quality measures are extremely robust to changes in the specification of the estimated equation. If omitting important unobserved or unmeasurable worker traits created seriously biased estimates of the effect of job quality on absenteeism, then these estimates should be very sensitive to the inclusion or exclusion of personality and background variables that would also be correlated with the omitted variables. In fact, the estimated coefficients of *HRSAL*, *STATUS*, and *SPECSKILL* are very stable. Including in an OLS regression the 20 additional personality and individual background variables that should have been highly correlated with any possible source of omitted-variable bias changed the estimated coefficients for *HRSAL*, *STATUS*, and *SPECSKILL* from $-.018$, $-.0034$, and .72, respectively, to $-.017$, $-.0037$, and .88.

The third and perhaps most convincing argument that the estimated relationship between job characteristics and absenteeism is not due to omitted variables comes from analyzing tardiness, absenteeism due to illness, and involuntary dismissals. Of the entire sample of almost 1,600 youths who were employed at the time of the interview or who had been employed at some time during the past year, 90 were not employed at the time of the interview because they had been "discharged or fired" from their last regular job.

The model presented earlier posits that the possibility of being fired is one of the primary disincentives to absenteeism. According to the model, the greater the probability of being fired for a marginal increase in absenteeism, the less the employee will choose to be absent. Similarly, given that absenteeism could cause the employee to face a higher probability of being fired, employees will choose to be absent less often, the greater the relative benefits of remaining employed on the current job.

To confirm that absenteeism does increase the probability of being fired, we conducted a simple binary probit analysis, in which the dependent variable was set equal to zero if the respondent was either employed at the time of the survey or had lost his last job for reasons other than firing or dismissal, and equal to one for those who had been fired or dismissed from their most recent job. Table 7.4 reports the results of this analysis.

Examination of the results shows that, as expected, the probability of being out of work because of dismissal or firing was lower for those

Table 7.4 **Binary Probit Results for Dismissed or Fired as the Dependent Variable**

Independent Variable	Coefficient	Standard Error
Absenteeism Not Due to Illness	.14	(.05)
Absenteeism Due to Illness	.18	(.05)
Tardiness	.005	(.04)
HRSAL	−.057	(.014)
STATUS	−.0053	(.0024)
SPECSKILL	−.76	(.39)
CONSTANT	.46	(.28)

who were absent less or who had "better" jobs. Tardiness, on the other hand, did not affect the probability of being fired. If the hypothesis that job quality is correlated with absenteeism because of behavioral responses to the probability of being fired (rather than because job quality is capturing the influence of unmeasured personal characteristics) is correct, then tardiness, because it does not affect the probability of being fired, should not be affected by the attractiveness of the job.

Table 7.5 presents four-category ordered probit estimates for absenteeism not due to illness (already seen in table 7.3), absenteeism due to illness, and tardiness, using identical right-hand-side variables. The striking result of this analysis is the difference between the degree of relationship of tardiness to the job quality measures (*HRSAL, STATUS,* and *SPECSKILL*) and that of the two forms of absenteeism to these measures. Tardiness is far less closely linked to job quality. The existence of several statistically significant coefficient estimates for other variables in the equation suggests that this lack of statistical significance is not caused by poor data on the dependent variable tardiness. The coefficient estimates for the other variables in the equations indicate that most individual characteristics affect tardiness in much the same way as they affect absenteeism.

If the coefficients for *HRSAL, STATUS,* and *SPECSKILL* in the equation for absenteeism not due to illness were capturing hidden effects of personality rather than a behavioral response to job characteristics, the estimated coefficients for these three variables should be much larger and statistically significant in the equation for tardiness, paralleling those in the absenteeism equations. The fact that they are not provides strong support for the interpretation that job quality affects behavior in the manner that the model presented above suggests. Clearly,

Table 7.5 Estimated Results of Four-Category Ordered Probit for Comparisons of Absenteeism and Tardiness

	Dependent Variable		
Independent Variable	Absenteeism Not Due to Illness	Absenteeism Due to Illness	Tardiness
CONSTANT	−3.20	−2.84	−1.73
	(.32)	(.30)	(.30)
HRSAL	−.033	−.009	−.008
	(.020)	(.015)	(.014)
STATUS	−.0054	−.0037	−.0013
	(.0024)	(.0022)	(.0022)
SPECSKILL	1.21	0.59	−0.33
	(.38)	(.37)	(.33)
BOSSBIAS	.13	.045	.16
	(.08)	(.077)	(.08)
COMMUTE	.0032	.0037	.0035
	(.0013)	(.0012)	(.0013)
ILLEGAL	.25	.10	.16
	(.09)	(.09)	(.08)
GRADES	−.057	−.015	.008
	(.024)	(.022)	(.022)
VOTE	−.16	−.051	−.12
	(.07)	(.069)	(.07)
DFINDJ	−.015	.004	−.019
	(.010)	(.009)	(.010)
ED	.067	.006	−.003
	(.023)	(.021)	(.021)
TENURE	.051	.080	.039
	(.012)	(.011)	(.011)
TENURESQ	−.00086	−.0014	−.00067
	(.00036)	(.0003)	(.00033)

Note: Standard errors are in parentheses.

the interpretation that attributes statistically significant job quality estimates to omitted personal characteristics is inconsistent with the available evidence.

The reasons to expect positive or negative signs on the other variables in the equation for absenteeism were discussed above when these variables were defined. The signs for *BOSSBIAS, COMMUTE, ILLEGAL, GRADES, VOTE,* and *DFINDJ* were straightforward to predict and have turned out precisely as expected. The results for *BOSSBIAS, COMMUTE,* and *DFINDJ,* like those for *HRSAL, STATUS,* and *SPECSKILL,* are further evidence for the influence of incentives

on absenteeism. The results for *DFINDJ* are particularly interesting. Apparently, other things equal, workers who think jobs are hard to find do not as often engage in behavior (such as absenteeism) that might cause them to lose the jobs they have.

All four equations presented in table 7.3 show a positive estimate for the impact of increased education on absenteeism. This finding may be symbolic of the fact that workers with more education are more secure in their jobs. It is almost certainly true that they have lower values for $(U_{2a} - U_{2b})$, because education is such an important screening device used by employers. Paradoxically for employers, youths with more education may tend to take advantage of the employer's presumption that they will be more reliable.[10] It is therefore interesting to note that table 7.5 shows no evidence of a link between education and tardiness or absenteeism due to illness. This pattern of results makes perfect sense if employers are less tolerant of absenteeism among those with less education, or if those with less education try harder to avoid being fired because the alternative jobs available to them are less attractive, giving them a higher value of $(U_{2a} - U_{2b})$.[11]

7.5 The Magnitude of the Estimated Effects

The previous section discussed the signs and statistical significance of the coefficients on the variables used to explain absenteeism among the members of the NBER sample. It also presented several reasons for believing that the results reflect actual causal factors rather than statistical artifacts. This section will discuss the magnitude of the effects of job quality and personal factors on absenteeism.

The principal finding is that the effects of job quality and personal characteristics are both substantial and of similar orders of magnitude. The first two tables in this section present a general method of analyzing the magnitude of the effects of the several variables. Both show changes in the probability of different levels of absenteeism that result from changing a single independent variable from one standard deviation below its mean to one standard deviation above its mean, while holding all other independent variables constant at their means. Table 7.6 uses estimates from the *PROBIT4* regression, while table 7.7 uses those from the *PROBIT2* regression.

The numbers in the headings of table 7.6 are the estimated probabilities from *PROBIT4* for each of the four categories, when each of the explanatory variables is equal to its mean value. The means and standard deviations for the explanatory variables are given in the last column. There are three numbers at each independent variable's intersection with each absenteeism category. The top number among the three is the probability of the corresponding absenteeism answer, such

Table 7.6 **The Sensitivity of the Probabilities from the Four-Category Ordered Probit to Changes in the Independent Variables**

	Probability at $x = \bar{x}$, for all x's				
Independent Variable	*Often* .0166	*Sometimes* .0854	*Rarely* .2952	*Never* .6028	Mean (STD.)
HRSAL	.0139	.0762	.2806	.6293	$ 3.90
	.0197	.0954	.3096	.5753	(2.14)
	−35	−22	−10	9	
STATUS	.0132	.0737	.2763	.6368	23.4
	.0207	.0982	.3136	.5675	(16.1)
	−45	−29	−13	11	
SPECSKILL	.0228	.1023	.3192	.5557	.52
	.0122	.0701	.2697	.6480	(.10)
	64	38	17	−15	
BOSSBIAS	.0188	.0924	.3056	.5832	.21
	.0146	.0798	.2839	.6217	(.38)
	25	15	7	−6	
COMMUTE	.0207	.0982	.3136	.5675	29 min.
	.0132	.0737	.2763	.6368	(23)
	45	29	13	−11	
ILLEGAL	.0207	.0982	.3136	.5675	.14
	.0132	.0737	.2763	.6368	(.35)
	45	29	13	−11	
GRADES	.0139	.0762	.2806	.6293	4
	.0197	.0954	.3096	.5753	(1.4)
	−35	−22	−10	9	
VOTE	.0139	.0762	.2806	.6293	.52
	.0197	.0954	.3096	.5753	(.42)
	−35	−22	−10	9	
DFINDJ	.0146	.0798	.2839	.6217	13
	.0188	.0924	.3056	.5832	(3)
	−25	−15	−7	6	
ED	.0217	.1013	.3174	.5596	10.9 yrs.
	.0125	.0713	.2719	.6443	(1.5)
	55	35	15	−14	

Note: On each line, all independent variables are at their means except for the variable on the line under examination. In each set of three statistics, the first measures the probability of the column's answer (often, sometimes, rarely, or never) when the variable on the line is one standard deviation above its mean; the second measures the probability when the variable is one standard deviation below its mean; and the third measures the difference between the first two, as a percentage of the column probability, when the column probability is calculated with all independent variables at their means.

STD = standard deviation.

as "sometimes", when the variable listed on the respective row, (such as *COMMUTE*), is set at one standard deviation above its mean and all other independent variables are equal to their means. Thus, for example, the estimated probability that the answer "sometimes" would have been given by a respondent who was "average," except for the fact that his commute was one standard deviation longer than the "average" respondent's, is .0982. The second line gives the probability (.0737) that he would have said "sometimes" if, instead, his commute had been one standard deviation below the mean of *COMMUTE*. The number on the third line is formed by subtracting the number on the second line from the one on the first and then dividing by the probability (given at the heading to the column) of the relevant answer ("sometimes") with all variables (including *COMMUTE*) set equal to their means. Thus, the third statistic is a measure of the predicted percentage change in the probability of the corresponding answer for a shift of the independent variable from one standard deviation below its mean to one standard deviation above. For *COMMUTE,* a move from one standard deviation below its mean to one standard deviation above causes the probability of the answer "sometimes" to increase by 29 percent of the probability of this response when evaluated at mean values.

Table 7.7 summarizes the quantitative importance of the changes in the independent variables, using the *PROBIT2* estimates. With all variables at their means, the predicted probability of "sometimes" or "often" from *PROBIT2* is .0885. Each entry in the first column of the table gives the equivalent probability when the other variables remain at their means but the variable on its row is one standard deviation above its mean. The second column provides the related probability for the variable at one standard deviation below its mean. The third column equals the value in the first column minus the value in the second; and the fourth column gives the value in the third as a percentage of the probability at the sample mean, .0885.

Tables 7.6 and 7.7 both show that job and personal characteristics can be quantitatively important in determing the level of absenteeism. Movements from one standard deviation below the mean to one standard deviation above the mean in various characteristics typically change the probability of frequent ("often" or "sometimes") absenteeism by 25 to 75 percent of its value when all variables are at the sample mean. The fundamental point demonstrated is that incentive-related indices (including the job characteristics, as well as *COMMUTE* and *DFINDJ*) have effects on absenteeism that are of a comparable order of magnitude to those of personal characteristics, such as *ILLEGAL*, *VOTE*, and *GRADES*.

A more intuitive understanding of how the probability of frequent absenteeism varies as a function of changes in the independent variables can be gained from examining tables 7.8 and 7.9.

Table 7.7 **Effects of Changes in the Independent Variables on Frequent Absenteeism, Based on Binary Probit**

Independent Variable	Pr for $\bar{x}$ + S.D.	Pr for $\bar{x}$ − S.D.	Difference	Difference as % of Pr for $\bar{X}$	Mean	(STD)
HRSAL	.0643	.1190	−.0547	62	3.90	(2.14)
STATUS	.0571	.1314	−.0743	83	23.4	(16.1)
SPECSKILL	.1271	.0594	.0677	76	.522	(.009)
BOSSBIAS	.1038	.0749	.0289	33	.207	(.376)
COMMUTE	.1038	.0749	.0289	33	29.2	(22.7)
ILLEGAL	.1020	.0764	.0256	29	.143	(.35)
GRADES	.0764	.1020	−.0256	29	4.04	(1.35)
VOTE	.0735	.1056	−.0321	36	.52	(.42)
DFINDJ	.0735	.1056	−.0321	36	12.6	(3.14)
ED	.0808	.0968	−.0160	18	10.9	(1.52)

Note: Frequent absenteeism equals the responses "often" or "sometimes." The probability for $\bar{X}$ = .0885. STD = standard deviation.

Table 7.8 **Probabilities of Frequent Absenteeism, Based on Binary Probit, for Selected Job and Worker Characteristics**

Independent Variable	Job or Worker Characteristic			
	(1)	(2)	(3)	(4)
HRSAL	$3.00	$4.00	$5.00	$6.00
	.1003	.0869	.0749	.0643
HRSAL (*w*)	Dishwashers	Painters	Guards/Watchmen	Stock Clerks
	$3.20	$4.42	$3.53	$3.76
	.0985	.0823	.0934	.0901
STATUS (*S*)	Dishwashers	Painters	Guards/Watchmen	Stock Clerks
	11	16	18	44
	.1210	.1075	.1020	.0505
SPECSKILL (*K*)	Dishwashers	Painters	Guards/Watchmen	Stock Clerks
	.38	.66	.59	.56
	.0495	.1446	.1151	.1038
w,S,K	Dishwashers	Painters	Guards/Watchmen	Stock Clerks
	.0778	.1611	.1401	.0604
COMMUTE	35 Minutes	25 Minutes	15 Minutes	5 Minutes
	.0912	.0853	.0793	.0735
BOSSBIAS	Yes	Yes	No	No
	.1251	.1251	.0808	.0808
ILLEGAL	Yes	Yes	No	No
	.1271	.1271	.0838	.0838
GRADES	Mostly D	Mostly C	Mostly B	Mostly A
	.1210	.0985	.0793	.0630
VOTE	No	No	Yes	Yes
	.0912	.0912	.0721	.0721
DFINDJ	Impossible	Difficult	Somewhat easy	Very easy
	.0444	.0643	.0918	.1271
ED	9 Years	10 Years	11 Years	12 Years
	.0793	.0838	.0885	.0951
Column Probability	.1335	.2776	.0655	.0028

Note: Frequent absenteeism equals the responses "sometimes" or "often."

For variables in each row, variables in the other rows are set at the sample mean.

Column probabilities are evaluated using all values in the column except that for *HRSAL* (*w*) from the second row; the value for *HRSAL* is taken from the first row. Values in this table may not be representative of variation within the sample.

Each row of table 7.8 presents four selected values of the associated independent variable. Beneath each value is the probability of frequent absenteeism (derived from the *PROBIT2* equation), evaluated at the given value of the independent variable and the sample mean for all the other independent variables. The fifth row, labeled "*w, S, K,*" shows the probabilities of frequent absenteeism when all three of the variables *HRSAL, STATUS,* and *SPECSKILL* are given the value that holds for the occupation given in the column and when all other independent variables are given the sample mean value. The last row of the table, labeled "column probability," indicates the probability of frequent absenteeism for a composite "person" formed by combining all of the characteristics in the column (including the value of *HRSAL* given in the first row). These composites are meant to give an insight into the sensitivity of the analysis; any resemblance to an actual individual is purely coincidental.

Table 7.9 is probably the easiest to understand and the most interesting of the four tables in this section. Using "composite people," it provides a direct comparison of the relative effectiveness of changing job or personal characteristics in attempting to induce less absenteeism among young black men. Five occupations—janitors, dishwashers, retail sales clerks, delivery men, and a hypothetical "good job" with both *HRSAL* and *STATUS* one standard deviation above their sample means—are combined with three hypothetical young men: one attractive young man who is registered to vote, earns no illegal income, and was a "B" student; one who is not registered, earns no illegal icome, and was a "C" student; and one who is not registered, does earn illegal income, and was a "C" student. Values of the other variables for these composite young men (*COMMUTE, BOSSBIAS, DFINDJ,* and *ED*) are set at sample means.

Inspection of table 7.9 shows again that the occupational and personal factors are of similar quantitative importance. The youth with the worst personal characteristics (youth C) holding the job that most encourages absenteeism (janitor) would have a .2119 probability of reporting frequent absenteeism. Changing this youth to the one with the best characteristics (youth A) would reduce the predicted probability of frequent absenteeism to .0901. Similarly, giving youth C an attractive job (delivery man) reduces his predicted probability of frequent absenteeism to .1075.

A phenomenon discussed earlier and readily apparent in tables 7.8 and 7.9 is that simply improving job quality may not lead to lower absenteeism. In particular, if specific skill (which may proxy job security) is increased along with wages and status, there may be offsetting effects, and the direction of the impact of improved job quality on absenteeism is of ambiguous sign. Notice that although dishwasher is

Table 7.9 **Probabilities of Frequent Absenteeism for Three Hypothetical Youths in Five Alternative Occupations**

Job Characteristics	Occupation				Hypothetical High Wage and Status
	Janitor	Dishwasher	Retail Sales	Delivery Man	
Mean HRSAL	$3.53	$3.20	$3.22	$4.51	$6.04 ($\bar{w}$ + STD)
STATUS	13	11	41	31	40 ($\bar{S}$ + STD)
SPECSKILL	.51	.38	.52	.46	.52 ($\bar{K}$)
Probability of Frequent Absenteeism:					
Youth C	.2119	.1539	.1251	.1075	.0869
Youth B	.1492	.1038	.0833	.0694	.0548
Youth A	.0901	.0594	.0455	.0375	.0329

Note: Frequent absenteeism equals the responses "sometimes" or "often."

Youth C is not registered to vote, earns illegal income, and was a "mostly C" student. Youth B is not registered to vote, does not earn illegal income, and was a "mostly C" student. Youth A is registered to vote, does not earn illegal income, and was a "mostly B" student. The other variables have been set equal to the sample means. STD = one standard deviation.

the least attractive job in table 7.9, it does not have the highest probability of frequent absenteeism. The positive effects of increasing the wages and status of a dishwasher when he moves to being a janitor are more than offset by the negative impact of higher *SPECSKILL*.

7.6 Summary and Conclusions

Few readers, if any, will be surprised at the extent to which personal factors have been shown by this study to affect absenteeism. The study's findings simply confirm widely held beliefs about this problem. The main finding that may challenge the usual assumptions is that the labor market behavior of black youths is significantly affected by job-related incentives, including aspects of job quality. These effects are complex, and whether improving job quality leads to more or less absenteeism depends on the specific manner in which quality is improved.

The empirical findings of the study strongly support the view that inner-city black youths behave rationally and that they can, therefore, be induced to modify their behavior by appropriately designed and targeted incentives, both "carrots" and "sticks". The main "stick" in the labor market under analysis is the possibility of being involuntarily dismissed (fired) for unsatisfactory behavior. Absenteeism was found to increase the probability of being fired, while tardiness has essentially no impact on the probability of being fired. Hence, although tardiness may not go unnoticed, it does not carry nearly as heavy a potential penalty as absenteeism. Accordingly, youths with higher-status, higher-wage jobs that they should want to keep are absent less often than those on poorer jobs, but they are tardy just as frequently.

An interesting and important finding is that in one aspect of job quality, improvement apparently diminshes a youth's fear of being fired and therefore leads to more absenteeism. This is the aspect measured by *SPECSKILL*, which represents the probability that the worker will be in the same industry five years in the future. The increased level of industry attachment associated with higher values of *SPECSKILL* is presumed to reflect industry-specific skills and credentials that both increase the value of the worker to his current employer (reducing the likelihood of firing for some worker behaviors) and facilitate mobility from firm to firm within the industry. Other things equal, a worker with higher *SPECSKILL* not only should be less likely to be fired for a given level of absenteeism, but also should experience shorter durations of involuntary unemployment and, if discharged, be more likely to find a job of similar quality to that of

the job he lost. Thus, it is perfectly rational for workers in what are essentially *less* dead-end jobs to be absent *more* often than their counterparts in jobs that teach fewer skills and confer less valuable credentials.

Just as the fear of being fired seems to be less effective in discouraging absenteeism among youths who have more industry-specific skills and who presumably would have less trouble acquiring new employment, the fear of job loss appears to be a more effective deterrent the more difficult the individual thinks it will be to find alternative employment. The variable *DFINDJ* (which measures this expected difficulty) is estimated to have a significant effect on whether the youth is frequently absent. Simple correlations show that *DFINDJ* is greater among youths with low scores on background and personal indices, who in turn should be less attractive to employers. In the same vein, years of education, which is often viewed as a sign of worker quality, has a small but significant positive impact on absenteeism; however, this relationship may reflect a sample-selection problem inherent in the NBER data.

Because incentives seem to work so powerfully, the design and targeting of inducements to greater worker reliability is a tricky process. Program operators may be disappointed to find that unless carefully structured, supposedly better opportunities may actually lead to less desirable behavior. What is needed, then, are policy approaches that offer attractive opportunities along with strict mechanisms to hold youths accountable for their performance. This might involve a well-coordinated evaluation and referral system through which past performance could have a direct link to future opportunities.

There are other important issues that we, as economists, less typically discuss but that are centrally related to the topic under analysis. These involve the relationship between the inner-city black youth and his employer. As previously mentioned, the variable in the estimated equations called *BOSSBIAS* measured whether the youth believed his supervisor showed bias against individuals on some basis other than how well they performed their jobs. Twenty percent of the youths in the sample believed that their bosses showed such a bias. *BOSSBIAS* was estimated to have a significant impact on absenteeism, with a youth who believed his boss to be biased having had a 50 percent greater probability of being frequently absent than one who did not hold such a belief (see table 7.8). The relationship of this variable to tardiness was even stronger (see table 7.5). Some of this effect may, of course, be the result of youths with poor behavior eliciting strong responses from their supervisors, thereby causing the youths to feel that they are being "picked on." Whichever the dominant direction of causality in this relationship, given strong preconceptions on both sides, there may

be a large element of a self-fulfilling prophesy at work here. In any event, these findings strongly suggest that the employer-employee relationship should be a fruitful topic for both further research and employer and community action.

The estimated results showed several direct relationships between personal characteristics and absenteeism, each with the expected sign. Youths with over $50 of illegal income in the past year were estimated to be one and one-half times more likely to be absent frequently than those who did not have such income (see table 7.8). Although this finding may, in part, represent the opportunity costs of time spent at work, it is more likely to be a proxy for the type of individual and his value system. Grades and voter registration were other personal characteristics that strongly predicted employee dependability. The results of this study suggest that grades may be a more reliable criterion by which to screen job applicants than the more commonly used criterion of the level of education attained.

Finally, we turn to the issue of unemployment. Lowering the extent of absenteeism among inner-city black youths may ultimately lead to a substantial reduction in their level of unemployment. It is unlikely, however, that a change in the frequency of involuntary dismissals will be an important contributing factor. Although the probability of being fired is significantly related to absenteeism, dismissals in the NBER sample accounted for a relatively small percentage (less than 15 percent) of separations. Further, if the probability of having been "fired from the last job" for youths in the sample who were absent "often" or "sometimes" had been equal to the lower probability experienced by those who were absent "rarely" or "never," the fraction of the sample that was not employed at the time of the interview would have been only 0.6 percent lower. This effect is clearly negligible in light of the fact that 60 percent of those who had worked at some point in the past year were not employed (either unemployed or not desirous of employment) at the time of the survey.

If a change in the level of absenteeism, or in behavior more generally, is to affect the level of unemployment among these youths, it will be by improving their attractiveness to *potential* employers and thereby their position in the hiring queue. If stronger incentives for good behavior are developed and maintained, and good referral mechanisms are implemented so that those who have been dependable employees can be easily identified by potential employers, our research indicates that inner-city black youths will respond to these incentives by becoming more reliable employees. And if they become more reliable, employers will be encouraged to hire them for better jobs, thereby setting in motion a potential upward spiral in these youths' employment opportunities.

Notes

1. Crude measures of absenteeism can be computed from Current Population Survey (CPS) data. Specifically, those individuals who usually worked 35 or more hours a week at a job but who, in the survey week, worked fewer than 35 hours were asked the reason for this discrepancy. In the May 1979 CPS extract (for a time period roughly coincident with that in the NBER survey), 1.5 percent of adult white men, 1.9 percent of adult black men, 2.0 percent of young white men, and 3.0 percent of young black men reported working a short week for personal, nonillness reasons. Given the sample sizes involved, these percentages represent a differentially high absenteeism rate for young black men that is highly statistically significant. The CPS data are not sufficiently well measured to support a statistical study of the causes of these intergroup differences.

2. Simultaneity bias resulting from causation running from current absenteeism to job characteristics is not a problem, since the observed absenteeism occurred after the job was acquired, while tenure in the sample was typically so short that it is unlikely that many respondents had either received or failed to receive wage increases or promotions based on their current job performance (including their absenteeism record).

3. Previous studies include Allen (1981*a* and 1981*b*), Ehrenberg (1970), Reza (1975), Thomas (1980), and Winkler (1980). Most studies of absenteeism have been done by psychologists or management scientists, who generally attribute absenteeism to job dissatisfaction and the inadequacy of specific personnel policies (see Steers and Rhodes 1978). Although the theoretical approaches in these studies provide useful insights, they leave many of the questions that economists ask unanswered.

4. For an analysis of absenteeism that also relys on the rigidity of contracted wages and conditions of employment, see Reza (1975).

5. Obviously, this value represents a combination of the expected values from the best available alternative job and unemployment along with the probabilities of these two states.

6. The prevalence in such jobs of inconsistent and arbitrary personnel practices is frequently also mentioned. Although we will not discuss this aspect of menial jobs in the formal model, it is at least partially captured in the empirical analysis that follows by a variable measuring perceived bias on the part of the worker's supervisor.

7. It should be acknowledged here that the "environment" of a "good" job and the hope and self-respect such a job may engender in the worker might cause tastes to change. If this is the case, the tools of economic analysis, including the comparative statics that follow, may fall short of achieving their purpose.

8. It should be noted that higher industry retention rates do not necessarily imply longer tenure with any given employer.

9. Readers unfamiliar with the ordered probit estimation technique are referred to McKelvey and Zaroina (1975).

10. Nonetheless, we can offer no good reason why employers should hold onto such a presumption in the face of experience to the contrary.

11. An alternative explanation, discussed by others working with the NBER sample (see Bound 1983) is that education in the sample is highly correlated with age and that "good," older workers have moved out of the sample areas (the poverty tracts) because they have succeeded, leaving only the "poorer," older youths (and younger teenagers of all qualities) remaining behind to be included in the sample.

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Comment Charles Brown

Conclusive research on the effects of job characteristics on labor market outcomes has often proven difficult, both because the relevant job characteristics are difficult to measure and because the issue of omitted worker characteristics keeps arising. Ferguson and Filer's conclusions about the effects of job characteristics on absenteeism are therefore likely to be controversial. Their analysis of the effects of measured worker characteristics is less controversial, but no less interesting.

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The theoretical section of the paper investigates the comparative static effects of changes in a job's wage, status, and level of industry-specific human capital (K) on absenteeism. This investigation requires some armchair psychology, since cross-partial derivatives of the utility function are usually required. But since the theme of this section is the ambiguity of the theoretical results and since that theme is amply justified for wages and status, one's reservations here (does additional status really reduce the marginal utility of money income?) are not very important. The effect of increasing industry-specific human capital seems to me more controversial.

The sign of this effect depends on three effects of K. It depends positively on U^{LK}, the effect of K on the marginal utility of leisure; negatively on P^{LK}, the effect of K on the marginal impact of leisure (that is, absenteeism) on the probability of discharge; and negatively on $(U_{2a} - U_{2b})^K$, the effect of K on the utility difference between holding the current job and finding another job in the next period. Ferguson and Filer argue that more-skilled jobs are more pleasant, so U^{LK} is negative; that employers lose more from firing skilled workers, so P^{LK} is negative; and that K gives the worker the ability to move to other jobs in the same industry, so (holding the current wage constant) $(U_{2a} - U_{2b})^K$ is negative.

I find the last two arguments, and particularly their juxtaposition, somewhat puzzling. If the skills in question are readily transferrable within an industry, workers should pay the full cost of training, and there is no extra cost to the firm from firing absentee workers. Alternatively, if discharging an absentee worker would be costly to the firm, it should pay a wage somewhat above the alternative wage to discourage absenteeism and reduce discharges. I suspect that the solution to the puzzle lies in what is happening when we compare workers with different levels of industry-specific human capital but equal wages. If the worker with less industry-specific human capital has better luck rather than more general capital, Ferguson and Filer's view may be correct: K would have an element of firm specificity, which explains the reluctance to discharge a worker who has it, and an element of transferability, which luck presumably lacks.

Even then, the reluctance-to-discharge argument may be weak. Suppose one plots P, the probability of discharge, against L, the extent of absenteeism. Such a curve would be upward sloping. Now compare the two curves, for different levels of K. The assertion that P^{LK} is negative says that the $P(L)$ curve will be flatter with more K. But $P(L)$ should be zero at low levels of L, and equal to one at very high levels of L, for any value of K. If the two $P(L)$ curves coincide at zero absenteeism and at extreme absenteeism, it is impossible for one curve to be uniformly flatter than the other. If one interprets P as the probability of discharge for all causes, then $P(L)$ is probably lower for those

with specific human capital at low levels of L but roughly the same (that is, one) at high levels of L. In this case, $P(L)$ could be uniformly lower for the worker with more K, but again could not be uniformly flatter (indeed, it could be uniformly steeper).

My skepticism about the authors' analysis on this point should not be overstated. I read their discussion to say that, on a priori grounds, greater industry-specific human capital could quite plausibly increase absenteeism. My own prior is that such a response is perhaps possible, but certainly not likely.

In the transition from theory to evidence, the measurement of the variables used becomes important. The NBER survey data contain some very interesting information here; it is used well and supplemented by two indices based on the respondents' occupation, the Duncan socioeconomic status score and the industry retention rate of the occupation. The authors interpret the latter as a measure of industry- rather than firm-specific skill. I am not certain that this interpretation is warranted, especially since in the NLS youth sample over 80 percent of the industry stayers were firm stayers (Brown 1982, 44, n. 13).

The empirical results are very interesting. The virtues of a special-purpose survey are evident in the wide range of variables not available to previous researchers. One very striking result is the list of variables that proved unrelated to absenteeism. Perhaps the most surprising of these are age and marital status, because both are regarded by employers as signs of dependability.

Among the variables that do matter, the results for personal attributes are strikingly in line with expectations, except for education (and I find Ferguson and Filer's explanation more plausible than any alternative I can invent). Among the job characteristics, wage and status reduce absenteeism, while the perception that one's boss is biased and commuting distance increase it. All these findings are in line with one's expectations, though the findings for wage and status could not be proven in a formal sense. Increasing the industry-specific human capital measure increases the absenteeism rate. As I have indicated above, I am not comfortable with this result. To be fair, I cannot think of a plausible after-the-fact rationalization of it.

Are the job characteristics really job characteristics? I agree with the authors that the omitted-variables story does not explain the negative effect of the industry-specific human capital measure on absenteeism. I find the robustness of the results to the addition of many other personal characteristics reassuring, although I wish the survey provided information on the extent of absenteeism on the previous job for use as a control variable.

I am less convinced by the final argument the authors offer on the issue of absenteeism. They observe that personal reliability should be reflected in a lack of absenteeism and a lack of tardiness. On the other

hand, if the probability of losing one's job because of unreliability is the key (unobserved) job characteristic, measured job characteristics will be related to absenteeism and tardiness only to the extent that absenteeism and tardiness are in turn related to the probability of discharge. Ferguson and Filer find that although their job characteristics predict absenteeism, they do not bear much relationship to tardiness; moreover, though absenteeism is related to the probability of discharge, tardiness is not. This says that "better late than never" is truer than we realized, but that "better timely than tardy" is not. Even if tardiness is unrelated to discharge, one still wonders why the difficulty of finding another job should be negatively related to tardiness (table 7.5). Thus, I find the tardiness results more a puzzle than a proof that the job characteristics are in fact measuring just job characteristics.

However one labels them, the job characteristics and personal attributes used in the final model do have effects on absenteeism that are fairly characterized as large. But since discharges are a small share of separations in this sample, and the effect of absenteeism on discharges is positive but not enormous, the effect of absenteeism on unemployment caused by discharges is "small." Of course, absenteeism can affect unemployment in other ways: by making new jobs harder to find; by making the new job lower paying and hence less worth keeping; or by creating tensions with one's employer that lead to "quits." Thus, Ferguson and Filer's results do prove to be a worthwhile contribution to the literature on black youth unemployment.

Taken as a whole, their study isolates quite a few important predictors of absenteeism and finds that several others do not matter. An interesting possibility for future research would be to compare factors considered by employers to predict absenteeism with their actual results. My own impression is that age, education, and marital status are widely used as indicators of reliability, while grades are rarely and voter registration never used. Such a negative relationship between employer practice and the findings of this study would suggest that there is much yet to be done to understand the economics of absenteeism.

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