

Consequences of Absenteeism

Paul S. Goodman

Robert S. Atkin

Carnegie-Mellon University
Graduate School of Industrial Administration
Pittsburgh, PA 15213

The purpose of this chapter is to examine the consequences of absenteeism. Instead of asking what causes absenteeism, we want to identify the causal effects of absenteeism: that is, what effect does absenteeism have on the individual worker, adjacent workers, the work group, the organization, other social organizations and society? Our goal is to provide a better theoretical understanding of these questions. The literature in this area is quite sparse. While there are probably thousands of studies examining the determinants of absenteeism, there are probably less than twenty studies that directly examine the effects of absenteeism on other criteria such as productivity, safety, and so on. Therefore, our focus in this chapter is more on understanding the theoretical issues underlying this question rather than on making sense of a robust literature.

The focus of this chapter is distinct from others in this book. The first series of essays attempts to delineate the concept of absenteeism from a theoretical and methodological point of view. These analyses clearly bear on our analysis of the consequences of absenteeism, but their focus is primarily on providing a new perspective for thinking about absenteeism as a concept. The chapter on determinants of absenteeism captures the modal orientation of most absenteeism research. Absenteeism is the dependent rather than the independent variable. The chapter on absenteeism as a form of withdrawal behavior appears similar to focus of this chapter. However, there are some important differences. The literature on employee withdrawal (e.g., Beehr and Gupta, 1978) argues that there are a variety of forms of withdrawal behavior (e.g., absenteeism, lateness, turnover) and attempts to examine the interrelationships among these forms of behavior. One assumption in that literature is that there are a variety of ways to withdraw and different conditions may evoke different withdrawal strategies. Our focus on consequences of absenteeism is different. First, we want to trace the causal relationship of absenteeism on some other criterion variable (e.g., productivity) rather than look at the association among withdrawal behaviors. Second, the class of dependent variables in our investigation is different. Our interest is in variables such as productivity, quality, grievances, lost time accidents, and so on as opposed to turnover or lateness. Another way to distinguish our analysis of consequences of absenteeism is to contrast

it with another area in the absentee literature and in this collection--the area of managing or controlling absenteeism. An assumption, either implicit or explicit, in that literature is that absenteeism is dysfunctional for the organization and needs to be controlled. One major theme in that literature is to identify procedures that will reduce the amount of absenteeism (Mikalachki and Gandz, 1982). An absenteeism is considered from the management or organizational perspective, primarily as a negative factor. The basic position in this essay is that absenteeism has different consequences for different constituencies and that these consequences may be positive or negative.

Significance and Chapter Design

The rationale for studying the consequences of absenteeism should be obvious. First, there are very few empirical studies tracing the effect of absenteeism on other criterion variables, yet there are beliefs often articulated by managers on the dysfunctional effects of absenteeism on productivity and costs. Second, the literature in organizational psychology has a tendency to look into certain unidimensional relationships such as affect-->behavior (e.g., job dissatisfaction-->absenteeism) and not explore reciprocal effects such as behavior-->affect or behavior-->behavior relationships. Third, it is probably fair to say that most studies on absenteeism implicitly imply that it is something bad that should be reduced. An analysis of the consequences of absenteeism will highlight the positive benefits and thus insure a more balanced cost-benefit analysis of absenteeism.

To accomplish our objective, a series of theoretical issues concerning the consequences of absenteeism will be delineated first. These include selecting the dependent variable, defining the network of interrelationships, and establishing the meaning or representation of absenteeism. Then, the core of this essay will examine in more detail a selected set of variables absenteeism may effect. In each case we will: 1) review what we know from the literature (including some new empirical information from our Carnegie-Mellon research project on absenteeism), 2) delineate the theoretical process underlying the relationship between absenteeism and the

criterion variable, and 3) identify some strategic issues in researching these relationships.

Theoretical Issues

Selecting the Dependent Variable

Our concern is to understand the effect of absenteeism on other variables. One task then is to enumerate the possible dependent or criterion variables. We need some systematic way to determine or organize the consequences of absenteeism. Our strategy is to borrow the constituency approach from the organizational effectiveness literature (Goodman and Pennings, 1977) and organize the possible consequences of absenteeism by constituency. The possible constituencies include the individual who is absent, individual co-workers, the work group, the organization, the union, other social organizations such as the family, and aggregate social units such as the community and society. To each of these constituencies, absenteeism may generate positive or negative consequences. The importance of this exercise in categorization is that it will show that:

1. There are many consequences of absenteeism;
2. These consequences are both positive and negative; and
3. What may be a positive consequence to one constituency may be a negative to another.

This section borrows and extends a listing of consequences developed by Mowday, Porter and Steers (1982).

Table 1 lists positive and negative consequences of absenteeism by constituency. The list is meant to be representative not comprehensive. We recognize that the different outcomes listed in this table may or may not be relevant at any given situation. The relevance of any of these outcomes would depend on individual characteristics, the structure of the job, and the organization of work. We also acknowledge that there may be lagged effect between absence

and any of these variables. For example, the effect of absence on productivity may occur on the day of the absence or several days later. Lastly, we recognize that there is a complicated relationship among absenteeism and all the listed outcomes. We will acknowledge these points in the next section of this chapter.

The positive consequences of absenteeism, from the individual viewpoint, seem relatively straightforward. There is some research that indicates absenteeism is a form of withdrawal from job stress situations (Staw and Oldham, 1981). Absence from work then reduces stress, which can be functional for the individual. Much of our life is concerned with fulfilling such central nonwork-related roles as the parent role (when taking care of a sick child) or marital role (when reducing marital stress). The valence and utility for performing many of these non-work role activities is likely to be strong (Naylor, Pritchard, and Ilgen, 1980). Completing these activities, which may require being absent from work, leads to positive benefits for the individual.

Not all nonwork activities can be described easily in role terms. Some nonwork activities are inherently rewarding (e.g., a hobby, fishing) and will at times be elected over work activities. In most organizations, informal norms exist that govern absentee behavior. In some organizations informal norms exist legitimating certain days of absence although these are scheduled work days (e.g., beginning of deer season). Taking these days off may be a way to avoid social sanctions, and thus absence leads to a beneficial consequence.

The negative consequences of absenteeism to the individual are fairly straightforward and may include loss of pay and disciplinary action for the individual. Accidents may occur to the individual when he or she returns to a less familiar work situation. A less obvious negative consequence has been suggested by Johns and Nicholson, (1982) and Mowday, Porter and Steers (1982), which concerns the process of altered job perceptions. When confronted with an absence even the employee may develop a reason (attribution) or justification for explaining the absence. The reason given may or may not correspond to why the employee was absent. If over time the justification or reason is rehearsed over other absence events and non

controverted by any other information, we would expect that justification to become a permanent part of the individual's belief system. In the case of absenteeism, we would expect people to attribute the cause more to problems in their environment such as a bad job, bad supervisor, and so on. So, to the extent that absenteeism leads to negative beliefs about the job or job environment that are not based on the reality of the situation, we would say absenteeism, indirectly, creates negative consequences for the individual.

Positive and negative consequences fall to the co-worker. The absence of a worker may give co-workers a new opportunity to work on a different job, which would enhance job variety and skill development. In addition, if the work area is undermanned, there may be opportunities for overtime pay. On the negative side, the co-worker may have to do additional work, which is perceived as a burden, not a benefit. Overtime may be viewed as negative when it interferes with nonwork responsibilities. Accidents can occur when the co-worker operates an unfamiliar machine or set of job activities. If any of the above negative consequences occur, they are likely to lead to conflict with the absent worker on his or her return. In addition, if the co-worker observes high absenteeism in the work group, an inferential process may be evoked to explain this absenteeism. If, as discussed earlier, the attributions are made about negative environmental conditions, the co-worker might develop negative beliefs about the work environment although he or she is not absent.

Some of the positive and negative consequences for the work group are the same consequences for the co-worker. In this discussion, we view the group as characterized by task interdependencies among the members. Absenteeism is likely to create job switching within the group, which leads to a broader knowledge base among the work group. This knowledge base facilitates a more effective response to future absenteeism and day-to-day production problems. If job switching leads to a more flexible and productive group (Goodman, 1979) and absenteeism facilitates job switching, absenteeism may have positive benefits for the work group. On the negative side, replacing the absent worker either from within or outside of the group will lead to increase coordination problems. Productivity may decline in the short run, if the replacement worker is less skilled than the absent worker. In the area of productivity,

we have made conflicting claims about consequences, which can be reconciled by noting the timing of their impact. If a less skilled worker replaces the absent worker, productivity should immediately decrease. If absenteeism increases the job knowledge of group members and hence their flexibility, in the long run we expect this type of group to be more productive than the crew where each group member can perform only his or her job. In the area of accidents, we see a parallel. If absenteeism leads to a replacement who is unfamiliar with the job, an accident is more likely in an interdependent group. As group members become more familiar with other jobs, then the effect of absenteeism on accidents will be less pronounced.

The positive and negative consequences for the organization parallel those of the work group. Some of the differences of this level include the costs of absenteeism. Hiring, training, and paying additional workers for absenteeism and maintaining records, administering, and enforcing an absenteeism program all represents costs to management of the organization. We have observed in our own research that a variety of different arrangements or implicit policies develop with different classes of workers. The existence of absenteeism and any forms of absentee control policy are likely to generate grievances. Grievances, at least for the management, represent an additional cost of doing business.

Absenteeism can have consequences for the union and its officers. Absenteeism can be a tool for strengthening the power of the union in respect to management. Encouraging absenteeism (workers call in sick) can be used to increase management's costs and to extract gains for the union leadership and/or members. To the extent to which the union leadership is successful, we would expect increased solidarity among the members. In this specific example, absenteeism does not cause increased solidarity. Rather, it creates a condition that may facilitate the development of solidarity. A related scenario is one where an increase in absences is likely to create more grievances. To the extent the union wins the grievances, leader power is enhanced and member solidarity may increase. Absenteeism also has negative consequences for the union. To the extent to which absences lead to grievances (Katz, Kochan, and Weber, 1982a and Katz, Kochan, and Gobeille, 1982b), costs in processing these grievances represent a negative consequence for the union. Also, if the union is unsuccessful in

processing absence related grievances, the power of the leadership is likely to decrease as may the solidarity among members.

The constituencies related to absenteeism should not be solely work related. The family is another unit of social analysis that is affected by absenteeism. Absenteeism may be functional for the family in dealing with health, marital, or child-related problems. If incomes are rising absenteeism may represent a way to consume positive leisure activities together. In the case of dual wage earners, absenteeism by one of the partners may be necessary to insure the other spouse's job and earnings. On the negative side, absenteeism can lower earnings. Also, frequent absenteeism could lead to a poor work reputation, which may negatively reflect on family members. In some cases, absenteeism could aggravate marital and other family relations. If the absent worker interferes with the daily household routine, conflict may result.

The most common reference to the societal level analysis is the cost of absenteeism (see Steers and Rhodes, 1978). Typically, one figures out an average cost per absenteeism and multiplies this times the days lost per year. The problem with this analysis is that it really is drawn from the organizational perspective, not the national or societal perspective. For example, if absenteeism reduces job stress and mental health problems, then there are certain cost savings to society in the sense of needing less mental health facilities. If absenteeism helps minimize marital problems, then it has certain benefits to society. While we do not have any evidence to show that increasing absenteeism will reduce the societal costs for dealing with divorces, it is important in the total cost-benefit analysis to reflect these savings and not to think about costs solely from the management perspective. We also point out in Table 1 that absenteeism, particularly for workers on shift work, may provide a means for participating in community and political processes—a less quantifiable benefit to society.

We can conclude this section by noting:

1. There are many possible consequences of absenteeism;
2. The consequences are both positive and negative;
3. Positive consequences come from many sources—avoidance of stress, fulfillment of role obligation, rewards from work and nonwork activity, greater skills and

flexibility, more power, etc.;

4. Negative consequences come from many sources—loss of rewards, disciplinary action, accidents, greater work stress, lower productivity, greater costs, etc.;
5. Both negative and positive consequences may exist simultaneously;
6. Consequences to any of the constituencies may vary over time; and
7. Benefits to one constituency may represent negative consequences to another constituency.

The purpose of this discussion was to identify possible dependent variables for our analysis of the consequences of absenteeism using a constituency approach. We have selected five that have been subject to research and are most common across all the constituencies: productivity, accidents, grievances, costs, and attitudes.

Network of Interrelationships

The above section identified many possible consequences of absenteeism. This section explores the complex relationship among the variables. We want to make explicit the complexity of the relationships as well as state a strategy for empirically testing these relationships.

Our analysis thus far has portrayed a simple relationship between an absentee event and some consequences. We use the word consequence to mean something that follows from absenteeism, depends on absenteeism, and is causally related to absenteeism. It is very unlikely that there is a simple one way flow between absenteeism and the indicators in Table 1; therefore, we have outlined below some characteristics of the relationships.

1. Reciprocal Causation. One of the major problems with the absentee literature is that it has been grounded on the assumption that job dissatisfaction causes absenteeism. More recently, some authors have pointed out that the opposite directionality may be true (Staw and Oldham, 1981; Clegg 1982). We do not want to fall into this one way trap. Many of the factors in Table 1 are both consequences of and causes of absenteeism. Absenteeism can cause accidents by creating a condition where a replacement worker is less familiar with the job activities. This is an example where absenteeism is a necessary but not sufficient condition for accident. Accidents (i.e., lost time) in turn cause absences, which in turn, can cause accidents. In some of our research, there is data to suggest that family and marital problems lead to

increased absenteeism. Now if the time absent from work is used to repair the marriage (through an Employee Assistance Program), absenteeism would have created a condition to reduce marital conflict, which in turn should reduce absenteeism. It would be easy to go through Table 1 and illustrate these reciprocal relationships.

2. Two Plus Variable Relationships. In most cases we need additional variables to explain the relationship between absenteeism and its consequences. For example, the relationship between absenteeism and disciplinary punishment at the individual level depends on whether there is an absenteeism control plan, whether the plan is enforced, the individual's prior absentee record, the role of the union, and so on. Absenteeism can affect productivity but other variables need to be considered. Absenteeism could increase productivity if the manning policy normally created excess slack in the work group or department. Absenteeism may have no effect on productivity if the job is highly motivating and variation in operator skill is not related to job performance (Moch and Fitzgibbons, 1983). Absenteeism in a central highly skilled job may reduce productivity if comparably skilled labor is not available. While this point of identifying other main effect variables and possible interactions appears noncontroversial, it has not generally been acknowledged in consequence studies (see Moch and Fitzgibbons, 1983 and Mowday, Porter and Steers, 1982 for additional discussion on this point).
3. Alternative Explanations. Our focus is on demonstrating the effect of absences on other variables. We have noted that the causal connections are complicated, and a careful model needs to be built linking absenteeism to any of the consequence variables. While there is some theoretical and empirical evidence to suggest that researching the absence consequence link is potentially important, we should acknowledge that other variables may cause variation in the absentee and consequence variables and these latter two variables may not be linked. For example, we have said that absences can cause lost time accidents and these accidents can cause absences. But it is possible for another variable such as alcoholism to cause directly both absences and accidents and if the accidents are not lost time accidents, there would be no connection between these two variables. In another case, it may be that poor supervision directly contributes to poorer quality and more absenteeism without absenteeism and quality being connected. The rationale for these illustrations is that the covariation between absenteeism and accidents or absenteeism and quality may not signify they are causally connected, and it is the responsibility of the researcher to acknowledge the existence of alternative explanations.
4. Interrelationships Among the Consequence Variables. The picture we have drawn about absenteeism and its consequences focuses on one consequence variable at a time. However, the consequence variables may be interrelated with each other and with absenteeism. This will further complicate our understanding of the absence-consequence relationships. Probably the best way to discuss this point is to draw a simple example between absenteeism and two consequence variables--production and accidents. Table 2 illustrates some possible simple paths. The table is written with the following designation: starting at the bottom of an arrow, increasing that variable will have an effect on the variable at the head of the arrow as determined by the sign. So, working from right to left, an increase in production should increase the number of accidents, which should increase absenteeism. Increases in absenteeism may have a direct effect on increasing accidents, or an indirect effect through the companies replacement policy; in both cases accidents go up which in turn should lower production. Increases in production (by increasing stress) can increase

absenteeism which can increase accidents which can affect production. Absenteeism (by reducing stress) can have a positive effect on production which can increase accidents. The point of this illustration is simply that there are complicated relationships among the consequence variables and absenteeism. Note the relationships in Table 2 would be intolerably complicated if we added other consequence variables (attitudes, grievances), dealt with the linearity assumptions among the variables, or specified the moderators.

Meaning or Representation of Absenteeism

Two facts seem to emerge from the absentee literature. First, we have not done a particularly good job empirically in explaining variations in absenteeism. Second, there appears to be a trend to move away from aggregate representation of absenteeism to more micro specifications: that is, researchers seem to recognize that different types of absenteeism operationalize in terms of content (e.g., contract days, accidents, absenteeism) or frequency (and duration), which require different types of predictive models. While this move toward a more careful specification of absenteeism seems appropriate, studies adopting this point of view (e.g., Moch and Fitzgibbons, 1983) have not recorded any major breakthrough.

In a new and refreshing look at the absentee literature, Johns and Nicholson (1982) go a step further in arguing that "absence means different things to different people in different types of different situations" (p.). Basically, they are arguing for a more idiographic approach to absenteeism; if we can get a better phenomenological representation of the person and environment at a given period, we can develop a better understanding or meaning of absenteeism at a given time.

While there are no studies yet which demonstrate the utility of the Johns and Nicholson theoretical argument, their position seems consistent with what we are learning from our own data set on absenteeism. We have absenteeism data on 25 organizations in the same industry, all operating under the same collective bargaining agreement that includes an absentee control plan. Although it is the same industry and the same contract, the meaning attached to absentee codes (e.g., accident, excused, unexcused) differs across the 25 organizations. The

same variation exists within different organizations of the same company. At the organization level, we see marked variations in codes ^{- unclear} attached to different individuals with the same frequency and duration of absenteeism. We think this occurs because the coding of absenteeism by the organization represents a series of individual negotiations between different workers and management.

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The question that has motivated this discussion is: To what extent is the meaning or representation of absenteeism important for understanding the consequences of absenteeism? That is, do we first need to carefully delineate the meaning of absenteeism before we can understand the consequences? Regarding questions about reliability of absenteeism or predictability of absenteeism, we believe that the answer is emphatically yes--the meaning or representation of absenteeism first needs to be determined. In terms of the consequences of absenteeism, this central issue of determining the meaning of absenteeism may be ~~to be~~ less important.

To illustrate our contention that a precise specification of the meaning of absenteeism may not be as important in studies of consequences of absenteeism, we will consider a selected set of consequence variables from the organizational, group and individual perspectives. There are some reasons both theoretical and empirical, to expect absenteeism to lower productivity. The principal explanatory mechanism is that absenteeism leads to undermanning in number or in skill that should lower productivity. To test that assertion, one simply has to know whether a person is at work or not at work--the simplest definition of absenteeism. Knowledge of the individual's subjective representation of absenteeism or the identification of unique patterns of absenteeism from company records does not appear to be essential to understand whether the presence or absence of a person has an impact on productivity.

In the analysis of absenteeism and accidents, the same conclusions can be drawn. The basic explanatory mechanism for accidents is whether the individual is familiar with the work and machinery. Unfamiliarity can be caused by absences. Knowledge of absence types, frequencies, and subjective representations of absences does not seem relevant. Basically, we

need to know whether accidents create a level of unfamiliarity in the work place. Knowledge of whether someone is present or absent seems sufficient.

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Grievances are another organizational outcome. Our hypothesis is that increasing absences increase the opportunity for more grievances. Again, it's not clear that a more elaborate specification of the meaning of absences is relevant. All we need to know is whether an absence occurred. Now in some labor contracts there are a certain number of days where time off is legitimate and paid (e.g., personal days and sick days). It might be argued that if we would separate absenteeism into contract and noncontract days, we could better predict grievances; grievances should only fall on noncontract days. But even in the cases of contract days, there are points of controversy. Some companies require notification in advance in order to qualify for a day off with pay. This rule is often subject to controversy in terms of when and how to notify and can be subject to grievances. The point is, even with these relatively clear absence types, there can be grievances.

At the group level, we indicated that absence could lead to greater job knowledge and greater group flexibility as members switch around to substitute for the absent worker. Whether job knowledge and group flexibility increases seems tied to whether absence occurs and the company's manning policy. A detailed understanding of the meaning of absenteeism does not seem important.

It is at the individual level, particularly when the consequence variables are subjective indicators, that specifying the meaning of absence may be more important. Consider that absenteeism permitted the individual to fulfill one's role obligations such as taking care of a sick child. Connecting this consequence to absence is very difficult if we know only whether the person was not at work or the type, frequency, or duration of absenteeism. Identification of the meaning of absenteeism for the individual at a particular time and in a particular situational context seems necessary. Similarly, absence can permit the fulfilling of desired nonwork activities (e.g., a hobby). Understanding the process by which someone decided to allocate time to nonwork rather than work activities seems a necessary condition before we can

link absenteeism and benefits from nonwork activities.

We have generated a discussion on the meaning or representation of absenteeism since it is a central theoretical issue in absentee research. We want to acknowledge its importance in redirecting our thinking about some questions about absenteeism—particularly the question of explaining reasons for absenteeism. We also acknowledge that obtaining meaning about absence events, in some idiographic way, is no simple task. The essence of our argument in this section is that we may be able to sidestep the specification of the meaning or representation of absenteeism when we are dealing with an objective consequence variable such as productivity, but it may be necessary to attack the meaning question when examining the impact of absenteeism on subjective individual level indicators.

Consequence Variables: Data and Theory

In this part of the chapter, we move from a general consideration of the theoretical issues about the absentee consequence relationship to a more detailed consideration of variables that may be affected by changes in absenteeism. Our strategy is to primarily focus on variables that appear common to the constituencies enumerated in Table 1 and about which there is some empirical research.

Basically, we are interested in three questions: What do we know about the relationship between absenteeism and some consequence variable? What is the underlying theoretical relationship among these variables? What is the research strategy to test each of these theoretical relationships?

What motivates this section is a need to delineate fruitful research paths to examining the consequences of absenteeism. There is very little research in this area although the problem is potentially interesting and policy-relevant. By bringing together what we know and by

identifying some research paths, perhaps research in this area shall grow.

Productivity

What effect does absenteeism have on productivity? Productivity, in this discussion, will be defined as output over labor input. Also, we distinguish between productivity at the firm level, group level, and at the individual or job level. Firm-level productivity is defined in terms of total firm output (quantity and/or quality) over labor input. Group-level productivity refers the output of a particular group of crew over input, and job productivity refers to the output-input relationship for a particular class of job. It is important to distinguish among these levels because in different types of technologies, a particular level of productivity assessment may be more central in the production process. For example, in coal mining crew level productivity may be more central than job level productivity.

Empirical Evidence

There are very few studies of the impact of absenteeism on productivity. We have identified four studies, three of which are unpublished. Katz, Kochan, and Weber (1982a) and Katz, Kochan, and Gobeille (1982b) have developed data sets on manufacturing plants that includes a variety of industrial relations indicators, Quality of Working Life indicators, and organizational effectiveness indicators over a 10-year period. Measures of quality and direct labor efficiency are available and can be considered productivity measures. The absence measure is calculated as a rate per year at the plant level. It includes days absent, excluding contract days off, over scheduled working days. Two different data sets are used in their research program. Both data sets are drawn from the same company. They differ in number of plants and measures that are available. In their first data set (Katz et al., 1982a and 1982b) regression analyses were run on the influence of variables such as total hours worked, grievance

rate, absentee rate, Quality of Working Life rating, and plant dummies on quality and efficiency. A positive significant coefficient appeared for the absenteeism in respect to quality and a nonsignificant relationship appeared for direct labor efficiency. In the second data set, absenteeism was significantly positively related to quality and negatively related to labor efficiency. The authors explain the positive relationship between absenteeism and quality by noting: 1) there was a general increase in both variables over the time of the study, and 2) cross sectionally for any given year, the correlation between absentee and quality was negative, but not significant. *Knowing this, the analysis sounds inappropriate*

Moch and Fitzgibbons (1983) also investigated the absentee, quality and quantity relationships. Their research is directly focused on the consequences of absenteeism on production. Their basic hypothesis is that absenteeism and plant level efficiency are negatively associated when: 1) production processes are not highly automated, 2) when those who are absent are central to the production process and, 3) when absences cannot be anticipated. Data for this study was gathered from a manufacturing plant and covers two one-year periods. Results from this study are not completely clear. However, there is some evidence that absenteeism of more central people (e.g., maintenance personnel) has negative impacts on productivity and less automated production is more vulnerable to the negative effects of absenteeism.

A study by the Carnegie-Mellon Coal Project also examined the impact of absenteeism on production. Data was gathered from an underground coal mine where the crew or group is the primary production unit. The goal of this research was to explain variation in group performance. The analytic strategy was first to estimate the basic production function. In the production function, tons of coal is the dependent variable, and the independent variables are number of laborers, physical conditions, machine availability, and a set of control variables. From a series of analyses it was learned that

1. A reasonable portion of variance in production could be explained by the production function $R^2 = .53$;
2. There were crew and departmental differences;

3. There were some significant nonlinear effects, and
4. There were significant effects from different technologies.

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Given this base line information, different measures of crew stability that reflect who worked on what job on what day in what crew were developed. These indices indicate whether workers were present or not over time in their crew, job, and department. When the stability indices were added into the base line production function run, they contributed to a significant increase in the R^2 . While additional research is being conducted on the stability measure, there is some evidence that the presence or absence of crew members contributes to variation in production in interdependent work groups.

Staw and Oldham (1981) suggest the absentee-performance relationship may be positive and negative. Very low attendance rates may be technically dysfunctional and reduce job performance. Absenteeism on the other hand, may serve as a maintenance function and help the worker cope with job stress, which in turn should increase job performance. They test this dual effect of absenteeism by examining the relationship between absenteeism and performance for those people likely to be experiencing stress on the job from those that were not. For those people who were low in growth satisfaction, and probably experiencing more stress at work, the relationship between total absenteeism and rated performance was positive, no relationship between absenteeism and performance appeared for those high in growth satisfaction. While this finding appears contrary to the results on the other studies, it should be noted that the other studies used record data (versus self-report data on production) and used more detailed analytic procedures to separate out the effect of absenteeism versus other variables.

What conclusions can be drawn from the empirical studies? First, it is amazing there are so few studies about this relationship. Second, the findings tend toward support of a negative relationship but there are a lot of nonfindings (i.e., hypothesis not supported). Third, the idea of a positive impact of absenteeism on production is intriguing. Unfortunately, the design of the Staw and Oldham study does not permit teasing out that relationship. We need to look at daily absenteeism and production, controlling for other variables. Our guess is that stress

would develop over time, leading to a decline in performance. An absentee event should reduce tension and on subsequent days, performance should be high, and declining again over time. Unless one can test this cycle of events, it will be difficult to support the positive effect of absenteeism on production.

Theoretical Relationships

The direct relationship between absenteeism and productivity is fairly straightforward. Absenteeism means a job in the production process will be vacant. An undermanned production process should experience some decline in production. The organizational response to a vacant job could be a replacement. The skill level of the replacement relative to the job incumbent should explain the amount and direction of the effect on production. A less skilled replacement would lower productivity and a more skilled worker might improve productivity. In an overmanned situation, the opposite effect may be true. If a vacancy occurs and output remains the same, productivity will increase as a function of absenteeism. The key issue in this example is that the vacancy does not interact with the technology in such a way as to decrease output.

Also conditional on technology

The existence of a vacancy, the manning policy, and the replacement policy seem to be the key factors underlying the absentee-production relationship. Of course other variables can help refine the intersection between these variables. Some jobs are more central to the production process than others. Centrality means the job is interdependent with others and lower performance in that job reduces performance in other jobs. In mining, the absence of the miner operator will affect all other crew jobs. If a utility person is absent, that person does not necessarily have to be replaced at least in the short run. In the Moch and Fitzgibbons study, the mechanic was a key job. Absenteeism in this job should impact the production process more than an assembly worker. The degree a job is programmed also will bear on the vacancy replacement relationships. In highly programmed jobs, replacement is easier and the impact on production should be less. In high discretion jobs, replacement will

be more difficult and absentee effects should be more pronounced.

The existence of a vacancy, the manning policy, the replacement policy, the centrality of the job, and the level of discretion in the job affect the direct relationship of absenteeism on production. We noted earlier that absenteeism can affect other variables (e.g., accidents) which in turn affect production. The focus here is on direct effects. The indirect effects (e.g., absenteeism-accidents) appears later in this section.

Strategies for Research

How should we go about attacking the absentee-production relationships?

1. Begin with a common technology. Studying this question across different technologies will make the research overly complex.
2. Study the technology carefully. One needs to identify the primary production units and to have an intimate knowledge of job skill requirements, the centrality of jobs in different settings, the extent to which jobs are programmed, the replacement strategy for that production unit, and the general manning policy.
3. Design a data set that fits the theoretical process between absenteeism and production. Most of the studies we cited above (with the exception of the Carnegie-Mellon Coal Project) did not have a data set to address the research problem. We need to know if someone is absent, whether that person replaced has the skill-experience of the replacement, which job, and what the indicators of production are on a day-to-day basis. If you know only aggregate information (for example, yearly figures on absenteeism and productivity, e.g., Katz, et al., 1982a and 1982b), it will be difficult to shed any light on whether absenteeism causes changes in productivity and why that happens.
4. Develop a baseline model. Variation in production is a function of many critical variables. These need to be specified so we can separate out the effect of absenteeism from other variables. In our work we begin with the concept of the production function--in which production is a function of land, labor, and capital. In our mining research, this gets translated into physical conditions, number of laborers, and machine availability. We think these are the most critical and most proximate factors explaining productivity. After the production function is estimated, we then ask whether absenteeism had an additional effect on production variance.
5. Examine alternative measures of production. Different measures may require different hypotheses. Measures of quality and quantity have been used in some of the studies we cited. Absenteeism may have greater effects on quality than on quantity in programmed jobs. In these jobs the technology may drive the number of units, but not necessarily the quality. Downtime is an example of an intermediate measure of production that should be investigated. We might expect that absenteeism may have more of an impact on the duration than the incidence of

breakdown. The job knowledge of the replacement is, of course, important, for the greater the job knowledge, the shorter the duration of downtime.

6. Pay attention to linearity assumptions and lagged effects. We suspect that the effect of absenteeism on production does not have a simple linear form. For example, in coal mining one can vary crew size within certain ranges and there will not be major impacts on production. However, changing size beyond that range will affect productivity. Similarly, the effects of absences on productivity may or may not be contemporaneous; there may be lags. For example, in coal mining, the total production cycle includes a direct and indirect component. If workers responsible for the indirect component were absent, production could proceed. However, after a point, the indirect work must be done. In this case the effect of absenteeism would be lagged. The point is that the linearity assumption and possible lagged effects can only be understood if one has an intimate knowledge of the production process.

Accidents

What effect does absenteeism have on the number and severity of accidents? While many innovations have occurred in the area of machinery design and training to reduce accidents, there has been surprisingly little attention given to the relationship between absenteeism and accidents.

Empirical Evidence

We have found only a few studies dealing with the absentee-accident relationship. Some of these studies unfortunately do not address our interest in the effect of absenteeism on accidents. Hill and Trist (1953) studied the relationship between absenteeism and accidents, but their basic hypothesis was that accidents are a form of absenteeism. Some data were presented that indicated accidents are positively-motivated forms of absenteeism. In another study by Allen (1981), the relationships between accidents and absenteeism are examined but the focus is more on the effect of accidents on absenteeism rather than the reverse. His findings indicate that absentee rates are higher in plants with low wages and high occupational illness;

absenteeism is a labor-supply adjustment to wage and employment hazards.

While both of these studies examine the relationship between absenteeism and accidents, they do not deal with the research question in this chapter. Hill and Trist are arguing that accidents are one of the many forms of withdrawal (e.g., turnover, tardiness). Allen provides data to demonstrate that organizations with bad safety records are likely to experience more absenteeism. Time is taken off to compensate for the higher risk of an accident, that is, plant accident rates lead to absenteeism.

The Katz et al. (1982a and 1982b) study cited earlier has some minimal data on absenteeism and accidents. Accident measures at the plant level included cost of sickness and accident benefits, number of injuries requiring more than minor first aid per 200,000 hours worked, and number of lost time accidents divided by total hours worked. The simple correlations between absentee rate and these accidents measured showed a positive significant relationship with accident cost ($r = .29$ $p < .001$) and with lost time accidents ($r = .15$ $p < .05$). Unfortunately, there are no multivariate runs that control for some important plant characteristics that may affect the absentee accident relationship. These control variables were important in interpreting the correlation coefficients and regression coefficients in the absentee production discussion.

Some information on absenteeism and accidents appears in the Carnegie-Mellon research project. Three questions are addressed: First, are people who are absent more likely to have an accident when they return to work? Second, if a worker is absent, is his replacement more likely to have an accident? Third, if a person is absent, is a worker interdependent with the vacant job or a replacement worker more likely to have an accident?

Before we examine the first question, probit analyses were performed on a variety of accident measures to determine the effect of job and individual demographics on accidents. The results suggest that these demographics play a small role explaining accidents. To see if absences precede accidents, we looked at whether people were absent prior to an accident. Absence was measured as the day before, or the amount over the preceding five work days.

The data indicate that only a small number of accidents were preceded by absences. However, a larger number of accidents preceded by nonscheduled days such as weekends. Further investigation of the magnitude and significance of these results are in progress.

The second and third questions concern whether the replacement worker or some adjacent worker is more likely to have an accident. To examine such a question one needs a detailed data set that identifies who works on what job on what day and gives information on accidents. This permits operationalizing whether an absence leads to a replacement and whether an accident occurred and to whom. We are currently analyzing this data from a single organization and it does not appear that replacements are more likely to have accidents. However, only preliminary analyses have been completed and this type of analysis needs to be completed over multiple organizations to assess the degree of stability of the relationships among absences, replacement policy, and accidents.

The empirical evidence in the literature on the absentee-accident relationship is very inconclusive. There are simply not enough studies with the appropriate data sets to answer the questions. The evidence on absenteeism-production is more convincing.

Theoretical Relations

The direct relationship between accidents and absenteeism follows some of the theoretical rationale for the absentee-production relationship. Absenteeism leads to a vacancy and thus a condition of undermanning. Under an undermanned condition, accidents may be more likely because workers may have more work to do, experience more stress, cut more corners and so on. This scenario is based on the assumption of no replacement; that is, absenteeism causes a condition of undermanning, which increases the probability of an accident.

Another explanation in the absentee-accident relationship concerns the concept of familiarity. Familiarity refers to the knowledge one has of intra- and interjob activities and the work environment. In the context of coal mining familiarity, one can refer to the knowledge one has about their job, equipment, co-workers, supervisor, and physical conditions.

In the dynamic context of the work environment, changes in physical conditions may call for different job activities, use of equipment, or coordination activities. Familiarity with these events on a day-to-day basis should minimize chances for accidents. Unfamiliarity may increase the chances for accidents.

Familiarity can be used to characterize the knowledge of the absent person or the replacement. In the former case, the person who was absent returns to work. The issue is the degree of familiarity that person has with the job activities or work environment. If the person has experienced a long absence and is less familiar with the work, chances for an accident may increase for the focal individual and for an adjacent worker. In the latter case, we need to know the familiarity of the replacement with the job and work environment. Note that the unfamiliarity of the replacement worker has implications for that individual as well as an interdependent worker. The unfamiliar replacement worker may cause an accident for the adjacent worker because different coordination mechanisms are being used. Unfamiliarity then for the replacement worker has implications for the accident rate of that individual and that of the adjacent worker.

Another factor that may underly the absentee-absence relationship is the concept of vigilance. Vigilance refers to the degree to which an individual consciously attends to all aspects of one's work activity. Sometimes when driving a car, the work activity (driving) is done almost automatically with low attention to each of the sequential activities. At other times one pays careful attention to all the driving activities. In jobs with very low variety and standard routines, work may be done in a low vigilance manner, while the opposite may be true in high variety unstructured jobs. Absenteeism may be functional for low vigilance activities by "breaking set." After an absence, the worker may return to the job with renewed attention to the work activity, which lowers the probabilities for an accident. In high variety, stimulating jobs, absence may be dysfunctional. In this case after an absence interruption, it may take time to reach the optimal level of vigilance for the job, and hence increase the possibility of an accident. Duration of absence also may be related to vigilance and accidents. Long duration of absenteeism may initially increase vigilance of work. Long duration may

make the contrast between nonwork and work roles more salient and hence the initial vigilance levels should be higher.

The concepts of vacancy, familiarity, and vigilance should be fairly robust in explaining the absenteeism-accident relationship. However, as we mentioned in the discussion of production, there are other variables to include in the model. For example, the centrality of the job is important in explaining the absenteeism-vacancy-accident chain. When a vacancy occurs in a central job, failure to find a replacement will increase the number of production problems during that period, which may contribute to accidents. If a replacement is found, the degree of familiarity of the replacement should be associated with the frequency of accidents. In a less central or peripheral job, a vacancy will have less effect on the production process and a replacement is less necessary. So centrality affects the probability of a replacement and the amount of problems and risks created by a vacancy. The degree the job is structured bears on the absentee-vigilance-accident chain. Absence in highly routine jobs may increase vigilance and lower accident rates, while the opposite may be true for nonroutine jobs. We also need to recognize that the relationship among these variables may not be linear, and there may be lagged effects among these variables. For example, long absence duration may contribute to initial vigilance but the degree of vigilance may decline sharply after the first few days back at work.

-not clear why
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(incumbent
replacement
workers)

Research Strategies

The following are some key points in researching the absentee-accident relationship.

1. Choose the appropriate data set. The theoretical discussion of the absentee-accident link requires that we can trace through the effects of absenteeism on vacancies on replacements, in specific jobs, and at specific times in a particular organizational context. Simply collecting summary data at the firm level on absenteeism and accidents is inadequate.
2. Reformulate the meaning of accidents. Most companies record accidents and indices of lost time accidents and no lost time accidents. Severity rates and accident costs also are generated from accident reports. The problem with this data is parallel to absenteeism. Companies use different types of reporting schemes. Within companies different units adopt different conventions in labeling accidents. There is a natural bias to underreport accidents since they are social undesirable. At a more

microscopic level, accidents may have different meanings to different people at different times in different situations. A worker with no lost time accidents (worker gets released early from work) that always occur on Fridays has a different accident profile from the worker who has the same kind of accidents but randomly distributed over scheduled work days. The different meaning ascribed in these two cases is important. If we want to model the absence-accident relationship, then the meaning we attached to accidents must be congruent with our model. One of our explanations is that absences cause unfamiliarity which increase the chance of an accident. If our measures of accidents do not reflect our concept underlying accidents, then prediction will be impossible. For example, unfamiliarity should contribute to an accident. But if our measure of accidents reflects withdrawal behavior (Hill and Trist, 1953) we will not be able to predict accidents.

3. Examine alternative analytic techniques. Both absenteeism and accidents are low frequency events and this poses analytic problems in examining this relationship. In some of our data sets, we find most employees have no accidents, those with accidents have typically one, and a very few employees have more than one accident. For example, on average, in all of our 25 data sets, absenteeism may run around 15 percent for all reasons. For accidents, the majority of the workers have no accidents (60%), and those with only one accident constitute much of the remaining work force (20-30%). If we take seriously the idea of refining the meaning of accidents (e.g., in terms of withdrawal, uncontrollable accidents, etc.), then there will be fewer observations to study, at least within any common meaning of accidents. The problem is not only the low frequency of these events, but their distributional qualities are also quite complex. Clearly there are traditional statistical techniques for dealing with these data. However, we may need to adopt new methods of study for accidents. In our own work we are moving toward building rich case studies of absentee and accident behavior for a given work group. This type of qualitative representation captures the total experience of the work group in a given unit of time. The research can see all the complexities of these relationships unfolding within a particular social context. This more clinical approach may be used in addition to more traditional statistical approaches.
4. Develop a baseline model. The ideas in the discussion on absenteeism-production fit here as well. Before one attacks the absentee accident relationship, some baseline model of accidents should be constructed. In the production analysis the production function formed the baseline model. The analogy for accidents is less clear. We have approached the baseline in accidents by building an individual and job demographic model for different types of absenteeism. Basically we want to identify variables that would affect accidents even under perfect attendance. That is, given a common technology there may be individual (e.g., age) and organizational factors (e.g., job shift) that affect accidents. Once that model has been estimated then one can pursue the analysis of the absentee accident relations. That is, we want to determine the relative impact of absenteeism on accidents relative to the baseline model.

Grievances

Grievances represent another possible consequence of absenteeism at the organizational level.

Empirical Evidence

The Katz et al. study (1982a, 1982b) on industrial relations and economic indicators provides some evidence about the relationship between absenteeism and grievances. Using plant level data, they reported a correlation $r = .26$ ($p < .01$) between absenteeism and grievances. Unfortunately this type of statistic does not speak to the directionality of the relationship or what other moderators may affect these two variables. In other related analysis, in a regression format, they report grievances may have a negative effect on direct labor efficiency, a productivity measure.

Unfortunately, we have found few other studies that bear directly on this relationship. There are peripheral studies that examine effects of the union on absenteeism (Allen, 1981), the collective bargaining provisions on absenteeism (Dalton and Perry 1981), and the role of the union in representing employee interests on absenteeism (Hammer, Landau, and Stern, 1981), but none of these shed any light on the manner in which absenteeism may affect grievances.

Theoretical Relationships

The effect of absences on the number of grievances must be understood in an institutional framework. Many collective bargaining agreements have an absentee provision that states the conditions under which an employee can be dismissed for absenteeism. The agreement also creates the distinction between legitimate absences (e.g., holidays) and other kinds of absences. Typically, a worker can have a certain number of unexcused days before he is put on some probationary period. Subsequent absenteeism is usually the cause for

discipline or discharge. Since these absentee control plans are often formally part of the contract, and one function of the grievance process is to deal with the administration of the contract, one would expect that absenteeism-related grievances may increase with the presence of a formal plan and with the degree of enforcement of the plan. The problem is to assess whether the number is significantly larger than some base period (i.e., no plan) and how large the increase is.

The structure of the relationship between absence and grievance is as follows: absences occur for a variety of reasons. The company counts and classifies the absences. If an absentee policy exists, and the counts exceed a certain number, disciplinary action occurs, which creates conflict between labor and management. Grievances come into play because there are often ambiguities in the system of classifying absences and there are likely to be conflicting precedents regarding how absences have been administered in the past.

A different theoretical view that may bear on the absentee-grievance relationship comes from Hirshman's (1970) Exit, Voice and Loyalty. His basic argument is that employees dissatisfied with some aspect of work can exit (temporarily or permanently) from the organization or can use their voice (via the union) to express their dissatisfaction in order to change the state of affairs. Employees are more likely to exit if they have little loyalty or commitment to the organization. If loyalty exists and there is a possibility for change, "voice" will be used.

This framework provides some interesting hypotheses about absenteeism. If loyalty and a mechanism for change exists, there will be a positive relationship with job dissatisfaction and attendance. That is, dissatisfaction will not increase absenteeism because a mechanism to address problems exists. A belief in the effectiveness of union representation also will decrease voluntary absenteeism (Hammer et al. 1981).

While this framework and these hypotheses do not directly explain whether absenteeism causes grievances, it may bear on some of the underlying theoretical processes. The belief that the union is an effective mechanism for change may decrease certain types of absenteeism

(Hammer et al. 1981) that might lower the probability of absence-related grievances. This fact would not remove the relationship between these two variables, but the nature of the relationship may be attenuated. On the other hand, if the workers' belief that the union is an effective mechanism is connected to a belief that the union will be successful in processing grievances, then the fear of disciplinary action from absenteeism will decline and absenteeism and grievances will increase. Hammer et al. (1981) do not discuss this possibility. Our dilemma, then, with this theoretical position is that there are conflicting positions about what will happen to absenteeism and grievances. The contributions of this position is that it focuses on whether the union is powerful in effecting change and raises some alternative hypotheses about satisfaction and absenteeism relationships. Also, the "exit-voice" position is not inconsistent with institutional position discussed above. That position states that as absenteeism increases for whatever reasons and some institutional policy exists about controlling absenteeism, grievances will increase in the course of administering the policy. A powerful union can both reduce the causes of absenteeism, which should decrease grievances, or encourage workers to take marginal absences.

Another possible explanation is that grievances precede absenteeism and not the opposite. The idea is that grievances are a surrogate for industrial conflict, industrial conflict increases the unpleasantness of work, and absence is a way to avoid that unpleasantness. Earlier we noted that there was some empirical evidence that in low wage/high accident plants, workers would take more absences (Allen, 1981) and absence may be a labor market adjustment to low paying jobs and unsafe jobs.

While there may be some appeal to the grievance-->absentee relationship, there are a number of reasons why it may not be a highly probable or dominant relationship. First, grievances may not be as good an indicator of industrial conflict as strikes. Second, the incidences of grievances are not highly visible. Grievances affect the worker filing the action, the grievance committee, and certain levels of management. Unless a grievance precipitates a strike, it is unlikely the work force in general would know the incidence rate, content, and disposition of grievances. Since grievance measures may be less visible to the work force than

information about low wages or lost time accidents, we would expect they would have less impact on absenteeism. Our basic premise is that dissatisfaction does not seem to be a major predictor of absenteeism and grievances are probably not a powerful or general measure of dissatisfaction.

Another possibility that we acknowledged earlier in this chapter is that a third variable may affect grievances and absenteeism. For example, the behavior of a supervisor may cause absences (as a way to reduce interpersonal conflict) and grievances (by violating certain aspects of the contract). While this alternative explanation is viable, our focus for the rest of this section is examining whether absenteeism causes grievances, the major theme of this analysis.

While we have examined the merits of a variety of specifications of the grievance-absentee relationship, the most viable one, given the context of this chapter, is that absenteeism precedes and/or leads to grievances. The critical factors seem to be the existence and enforcement of an absentee plan control and the role of the union. The stronger the plan and enforcement procedures, the more likely grievances will occur. If the union reduces sources of absenteeism, the relationship between absenteeism and grievances may be alternated. If the union is powerful and in conflict with management, the association between these two variables may be strengthened.

Research Strategy

Our position is that absences create grievances when there is an institutional policy which specifies limits on absence types with related penalties. To examine the relationship between absenteeism and grievances the following factors should be considered.

1. Develop a system for recording grievances. In our current research program on absenteeism and in other research, we have not found good systems to record first and second level grievances. In most plants later stages of the grievance process are usually recorded because there are specific parties (arbitrator) and costs associated with grievance processing. We have found few examples of good systems that capture all the steps in the grievance systems.
2. Assign meaning to a grievance. This represents the same problem discussed in respect to absenteeism and safety. Grievances are the result of a complicated

political and negotiation process. Our theoretical position is that absenteeism leads to particular types of grievances (absentee-related), not grievances in general. The problem is when we try to identify grievances related to absentee policy, some may be self evident, but the description of others may be masked by some political agenda of labor or management.

3. Determine existence of absentee policy. The absenteeism-grievance relationship is contingent on the existence of an absentee policy. The problem faced by the researcher is to determine whether such a plan actually exists. We have found in our research that public testimonials about the plan from either management or labor tell us little about whether a plan in reality is operational. We see the process of recording an absence type or in administering the plan as a continual process of negotiation between individual workers and management. Separate deals are often made because of special circumstances. If this characterization is true, one would not look for evidence of a general policy but rather different policies with different classes of workers. The task then is to infer the policy from the patterns of absences and the implementation of disciplinary action. A good approach would be to look for people who have similar patterns of absence, where one has been disciplined, the other not. By looking at these contrasting cases, the rules governing the policies may be inferred. If we can determine the existence of absentee control it would be useful to determine the extent to which there is a single rule or multiple rules for different workers. The greater the number of rules governing the absentee control policy, the greater the number of grievances. If there is one set of rules used by all, there will be lower ambiguity in the policy and fewer grievances. In addition to determining the existence of a rule and the number of rules, some measure of the severity of the policy should be noted. Severity can be measured in terms of the number of people fired because of absenteeism over the total work force or people on the plan. The time elapsed between being on an absentee control plan and being fired could be another measure of severity.
4. Examine the institutional structure of the union and management. The institutional structure of the union and the character of labor-management relationships should moderate the absentee - grievance relationship and thus should be described. The degree of commitment by which the union grievance committee accepts and processes grievances will affect propensity to file grievances. Past success in winning grievances, position in the union power structure, the need to reassert power or visibility, particularly in the time of an election, may contribute the the propensity to file grievances. The general character of labor-management relations should also be important. If union and management operate primarily in an adversary role, absenteeism and grievances should be highly related; if they operate in a more cooperative mode the relationship should be alternated.

Absentee Costs

What effect does absenteeism have on company operating costs? It has been estimated that more than 400 million work days were lost due to absenteeism each year. Costs estimates of absenteeism range from 8.5 to 26 billion dollars (Steers and Rhodes, 1978).

Empirical Studies

There are only a few published empirical studies that include costs for absenteeism. Macy and Mirvis (1976) estimated the costs of absenteeism in a factory as between \$55.36 to \$62.49 per incident over a four-year period. Total estimated absentee costs for that firm varied from \$289,360 per year to \$570,453 during that period. Mirvis and Lawler (1977) estimated the costs of absenteeism for tellers in a midwestern bank. The cost per incident was \$66.45. While both studies are carefully done, they tell us more about the process of estimating than the actual costs. We would not expect that their reported costs are generalizable across industries or occupations.

Theoretical Issues

There is no well-developed theory on the relationship between absenteeism and costs. Work in human resource accounting provides one tradition in understanding costs of human resources (Flamholtz, 1974). The recent interest in evaluating the effectiveness of quality of working life projects provides another intellectual tradition in assessing the costs of human resources. In both traditions, the problem is to find a realistic approach to portray the costs of absenteeism to the firm.

There are several ways to classify the costs associated with absenteeism. The aggregate approach estimates the number of additional workers hired to offset the effects of absenteeism. For example, a firm may need 100 production worker to produce efficiently. However, if a certain percentage of these individuals are expected to be absent, the firm may hire an additional pool of workers (replacements) to offset absenteeism. The cost of recruiting, selecting, training, and paying these additional workers represents one way to estimate the costs

of absenteeism.

This aggregate approach to estimating absenteeism may overstate absentee costs. It is unlikely, at any period, that the pool of additional workers will always be replacing absent workers. Absentee rates are not constant over time, so there would be days when replacements may not be needed. In addition, absenteeism does not always lead to replacements. Therefore, the pool of the additional workers will be spending part of their time in other productivity activities, and this needs to be subtracted from costs of absenteeism.

Another approach, more individual in perspective, estimates the incremental costs (or benefits) per day associated with a specific absent worker. These costs may be direct or indirect. If a worker is absent and not replaced, the firm still incurs fringe benefit costs (direct). In addition, there may be indirect costs incurred from lower productivity or greater changes of accidents for other workers who work in an undermanned situation. If a worker is absent and a replacement occurs, the task is to compare the marginal costs (benefits) that would have been incurred if the worker who was absent had come to work, with the costs of the replacement worker. This enumeration of costs includes direct cost such as salary and fringe benefits, and indirect costs such as productivity lost, accidents, grievance costs, and so on. In this approach it is also important to recognize that absenteeism does not always lead to a replacement, so the direct labor costs may not be incurred (see Table 3).

There are a number of interesting theoretical issues underlying the absenteeism-cost relation. One is that there is a natural bias to assume that absenteeism increases costs.

Consider the following cases:

- A company hires additional workers to meet manning needs in the face of absenteeism. That represents a cost. On the other hand, we have pointed to possible benefits to the company, as a function of absenteeism, in terms of short run improvements in productivity and reduction in accidents. This represents a benefit. The net effect may be a benefit. The issue is to recognize that the net effect of absenteeism is not always a cost.
- A second issue concerns assigning costs to different meanings of absenteeism. Take the simplest case. Most collective bargaining agreements specify holidays and contract days that one may take and for which one will be paid. The costs associated with these days are costs of doing business. In one sense they are no different from other labor or material costs. Many collective bargaining agreements

give workers time off for bereavement or national guard duty. Granting these days off reflect the firms acknowledgement of obligations in the nonwork environment and again is an accepted cost of doing business. These types of costs which are agreed upon in the labor contract perhaps should be distinguished from absenteeism costs which arise outside of the labor contract.

- Another issue concerns who should be included in the enumeration of costs of absenteeism. Most records systems on absenteeism concern nonexempt employees. Almost all studies on absenteeism focus on blue or white collar workers. Record data is generally not kept on managers. One consideration in considering consequences of absenteeism and particularly the cost issue is determining the appropriate population for investigation.
- The last issue concerns the enumeration of categories for assessing costs. Most researchers (e.g., Macy and Mirvis, 1976) include the items we have listed in the direct and indirect costs. A major difference among writers in this area concerns how to deal with costs such as supervisor time, recruiting, selection, and physical overhead. Mirvis and Lawler (1977) include these categories in the assessment of absentee costs. Goodman, Atkin, and Seabright (1982) do not. The issue of whether to include these costs depends on how the organization deals with opportunity costs. That is, if a supervisor spends some time each day looking for replacements for absenteeism, should this time be allocated to the cost of absenteeism. Some argue that in performing this supervisory activity, other productivity activities cannot be performed, so there is a cost to managing absenteeism. The opposing argument is that there is a lot of slack in supervisory jobs. If the supervisor spends one-half hour a day dealing with absentee replacement, there is still enough slack within his job to get other activities completed without hurting productivity. This issue of allocating fixed costs appears in other areas such as overhead charges, costs of hiring replacement workers, and so on. Table 3 enumerates the various absentee costs.

Research Strategy

1. Develop new costs systems. Traditional company cost records are not designed to deal with the general issue of costing absences. On one level the data may be there but not in the desired form. For example, if worker "A" is absent and replaced by "B" the state of affairs needs to be recorded and then differential wages need to be calculated. In other cases the data will not be typically collected. For example, in costing absenteeism we need to know the supervisory time related to absenteeism or we need to know the number of additional workers hired to deal with absenteeism. In both of these examples, new data systems would have to be created. That is an expensive task and one companies may not cooperate with.
2. Estimate direct and indirect costs. To get the correct picture on costs of absenteeism, one must estimate both direct and indirect cost. Despite some of the problems we have mentioned in estimating direct costs of absenteeism, estimating indirect costs will be more difficult. One first must estimate whether absenteeism changes productivity or accidents and then estimate the costs for that amount of change. Both estimation problems, particularly the former, make obtaining reliable

estimates of indirect costs very difficult. Some strategies for estimating these indirect costs appear in this paper and in Goodman (1979), and Goodman et al. (1982).

3. Relate costs to meaning of absenteeism. In the theoretical discussion, we argued it was probably better to separate costs of absenteeism by the types of meaning of absenteeism. Perhaps the simplest way of thinking about delineating meaning is to examine it from the point of view of company and to distinguish between absenteeism that is paid for and legitimated by the company versus all other kinds of absenteeism. We advocate making this distinction because the meaning of these absent days are clear and represent an apriori agreement about the number of schedule of work days. An employee may be legitimately absent from work. Other distinctions such as accident days and excused days are subject to multiple meanings from different constituencies and therefore are avoided.

Affective Reactions

Does absenteeism affect the worker's affective state? Much of the absenteeism literature assumes the opposite—that negative affective states (e.g., job dissatisfaction) can cause absenteeism. In this section we want to examine whether absenteeism leads to changes in affective states. The specific hypothesis is that absenteeism can reduce stress and lead to both positive and negative attitude change.

Empirical Evidence

There are unfortunately very few empirical studies dealing with the absentee—>affective reaction relationship. One study by Staw and Oldham (1978) is interesting because it links absenteeism, attitudes, and performance. They argue that if a person is in an incompatible job (high stress), he may require some level of absenteeism to reduce stress. If a person is in a compatible job (low stress), then absenteeism will not serve the same function. They predict a positive relationship between absenteeism and performance in the incompatible jobs. Some empirical data are presented to support this differential hypothesis.

While this study is important because it articulates theoretically the need to examine the absentee-attitude relationship and the positive consequences of absenteeism, it never directly tests the link between absenteeism and attitudes. That relationship is inferred from the sign of the association between absenteeism and performance for people in compatible and incompatible jobs.

A recent study by Clegg (1982) addresses the relationship between absenteeism and organizational commitment and job satisfaction. A basic thesis in this research is that researchers have focused too much on the attitude-->absentee relationship rather than giving attention to the opposite causal path or some alternative explanation. Using a longitudinal design, some evidence was presented indicating that absenteeism was negatively related to job satisfaction and that job satisfaction was negatively related to absenteeism.

Theoretical Relationships

Absenteeism may have two effects on the individual worker. First, it may be a way to reduce stress. Second, it may contribute to positive or negative attitude change. The attitude change may be experienced by the absent worker, a co-worker, or a replacement worker.

There are many sources of stress at work. One mechanism to deal with stress is some form of withdrawal, which would include absenteeism. While only a temporary way to manage stress, absenteeism may temporarily reduce experienced stress. This rationale is consistent with the Staw and Oldham paper.

Not only is withdrawal through absenteeism a temporary way to reduce stress, it may be an object of discipline formally or from one's peers. To the extent to which discipline follows from absenteeism, levels of interpersonal conflict should increase, which may lead to negative increases in attitudes towards one's boss or fellow workers.

Absenteeism may affect the attitudes of workers who do come to work. If absenteeism creates opportunities for other workers to work on different jobs, and those jobs offer rewards such as greater variety, challenge, and skill development, we would expect that there may be a

shift toward more positive attitudes about work in general. That is, absenteeism creates a rewarding opportunity that can affect attitudes. The critical issue, of course, is whether the new job activities are rewarding and how often the opportunity occurs.

From this discussion, it is clear that filling in for that absent job may be more a penalty than a benefit. Absenteeism may lead to work overload for employees at work. The consequence should be more stress which may contribute to negative attitudes about work in general or toward the absent employee.

Throughout this paper we have focused on the distinction between work and nonwork opportunities. To the extent to which absenteeism permits the realization of valued nonwork outcomes, we would expect to see positive attitudes in these nonwork areas. Opportunities to be with one's family or to enjoy a hobby should lead to positive attitudes.

The above theoretical explanations focus on direct effects of stress or rewards on attitudes. We discussed earlier that the process of explaining absences by the absent individual may lead to attitude change. In this case the person may attribute (correctly or incorrectly) the reason for absences as related to poor job or environmental conditions. The more often these attributions get rehearsed (as a function of absences), the more likely these attributions will facilitate the creation of attitudes.

The basic premise in this section is that absenteeism can reduce stress and change attitudes. The change in attitudes can be positive and/or negative. The focal person may be the absent worker or the employee at work.

Research Strategy

1. Delineate the meaning of absenteeism. The meaning of absenteeism is particularly important for understanding the absentee-attitude relation for the absent worker. If absenteeism represents a withdrawal from a stressful situation, we may expect to see a reduction in stress. If, on the other hand, absenteeism represented a planned consumption of nonwork activities (e.g., fishing) we would not expect to see changes in stress while we might expect to see changes in nonwork attitudes. The meaning of absence is less important in the analysis of the present workers' attitudes. In that case, the opportunity for working on another job and the character of that

work are key, not the reasons for the opportunity.

2. Develop a detailed data set. Analyzing this relationship requires a very detailed data set. If we want to examine the relationship among job stress, absenteeism, reduction of stress, and changes in attitude, we need daily measures of these variables over time. If we want to see if working on a new job, cause by absenteeism, affects worker attitudes we need measures on job characteristics, need dispositions, and job attitude before and after each job opportunity. While developing such a data set is possible, it differs from the longitudinal data sets typically found in the organizational literature.
3. Measure work and nonwork attitudes. Absenteeism occurs because of work and nonwork related factors. To the extent that absenteeism creates the opportunity to perform valued nonwork activities, we would expect changes in attitudes about nonwork activities. Rousseau (1978) has shown that nonwork attitudes can affect absenteeism. Our interest is to demonstrate that absenteeism can affect both work and nonwork attitudes.

Discussion

The purpose of this chapter is to examine the consequences of absenteeism. There has been very little theoretical or empirical work on this topic, yet it represents an interesting and challenging topic in understanding behavior in organizations.

One of the issues in researching this topic is identifying the set of consequences. We adopted a constituency perspective from the organizational effectiveness literature and generated a list of positive and negative consequences for constituencies. While our analysis focused primarily on five consequences, many of the other variables mentioned in Table 1 are either included under the five consequence variables or are not central research problems. For example, benefits from compensatory nonwork activities, altered job perceptions, job variety, or

skill development for co-workers could all be summed under changes in affective states. Greater crew flexibility or increased coordination problems would fit in the analysis of productivity. There are other consequences listed in Table 1 that are really not major research issues. Whether absenteeism leads to loss of pay for the absent worker or overtime for the co-worker is important, but it is hardly a challenging research question.

There are, however, important consequences we have not examined in detail. These consequences are found in social organizations outside the organization such as the family or union. The omission of these variables is not surprising since much of our research has a managerial or at least an organizational level bias. Table 1 acknowledges there are other social organizations which are affected by absenteeism. A comprehensive analysis should develop theoretical models and data sets to assess the effects of absenteeism (positive and negative) on these social units. The research task appears to be manageable. Basically it requires that we learn more about other social arenas such as the family and begin to develop data sets to trace through the effects of absenteeism.

The focus of our discussion has been on absenteeism as an independent variable. We have intentionally contrasted this perspective from modal literature, which treats absenteeism as the dependent variable. However, we do not want to fall into the trap that characterizes most of the literature on absenteeism—that is a one way causal path. Absenteeism is both a cause of and a consequence of certain forces. In Clegg's research (1982), evidence for absenteeism as an independent and dependent variable is presented. In addition, in our theoretical discussions it was pointed out that there are alternative variables that cause both absenteeism and other variables that appear to vary with absenteeism as well as variables that moderate the absenteeism—>consequence relationship. The point is rather simple. The absenteeism—>consequence relationship is more complicated than we have specified. However, given the capacity of research in this area, our strategy would be to focus on this one way relationship and carefully study some selected relationships before examining forms of reciprocal causation.

Another issue implicit in this paper is the population to be studied. Our discussion really focused on occupations where work unfolds in some specific time schedule; we talked about occupations where there was some formal expectations about coming to work at a certain time. Indeed, without these expectations, it is not clear what absence means. What about self-employed people whose occupation does not have specific expectations about time such as an artist? A version of this same issue is that some occupations are somewhat diffuse as to where work is performed. A manager might decide to work at home for a given day. Would that be considered absence? The point of this issue is that absenteeism gets defined primarily in occupations where people work in a specific place at a specific time. If they are not there, then we observe an absence. The bias in the absentee literature and to some extent in this paper is that we have focused primarily on the production worker, tangentially on the manager and not on occupations where expectations about where and when to work are diffuse. In acknowledging this limitation, we also are suggesting some research opportunities. What affect does managerial absenteeism have on his or her productivity or affective state? What is the relationship between absenteeism, nonwork satisfaction, and productivity for a research scientist or artist?

If we can successfully understand the relationships between absenteeism and its consequences, we could focus our attention on other criterion variables. For example, much of the organizational theory literature is concerned with determinants of performance. Yet we know little about the effect of performance on other variables. How do increases in performance affect absenteeism, accidents, affective states, and so on? What are the critical moderators? What is the nature of the functional relationship? All these questions are important, yet there is little systematic research addressing these questions. The point is that the strategy underlying the absenteeism-->consequence relationship could be generalized to other examining variables such as performance, turnover, or accidents. We are not advocating examining the interrelationships among a set of criterion variables, for that has been tried in the effectiveness literature with little success (Goodman, Atkin, Schoorman, 1983). Rather, we are advocating a fine grained analysis of variables that are traditionally dependent variables in

most organizational research. We want to trace out their effects on the individual, work group, organization, and other social units.

Table 1: Consequences of Absenteeism

Individual	
<u>Positive</u>	<u>Negative</u>
Reduce job related stress	Lose pay
Meet nonwork role obligations	Discipline Formal Informal
Benefit from compensatory nonwork activities	Increased accidents
Comply with norms to be absent	Altered job perception
Co-workers	
<u>Positive Opportunities for</u>	<u>Negative</u>
Job variety	Increased work load
Skill development	Overtime pay
Overtime pay	Increased accidents
	Conflict with absent worker
Work Group	
<u>Positive</u>	<u>Negative</u>
Crew knows multiple jobs	Increased coordination problems
Greater crew flexibility in responding to absenteeism in responding to production problems	Decreased productivity
	Increased accidents

Organization-Management

Positive

Greater job knowledge base in
work force

Greater labor force
flexibility

Negative

Decreased productivity

Increased costs

More grievances

Increased accidents

Union-Officers

Positive

Articulate and strengthen
power position

Increase solidarity among
members

Negative

Weaken position power

Increased costs in
processing grievances

The Family

Positive

Deal health illness problems

Manage marital problems

Manage child problems

Maintaining spouses earning

Negative

Less earnings

Decline in work
reputation

Aggravate marriage
and child problems

Society

Positive

Reduction of job stress -
mental health problems

Reduction of marital related
problems

Participation in community
political processes

Negative

Loss of productivity

Table 2: Possible Relationships Among Absenteeism, Accidents, and Production

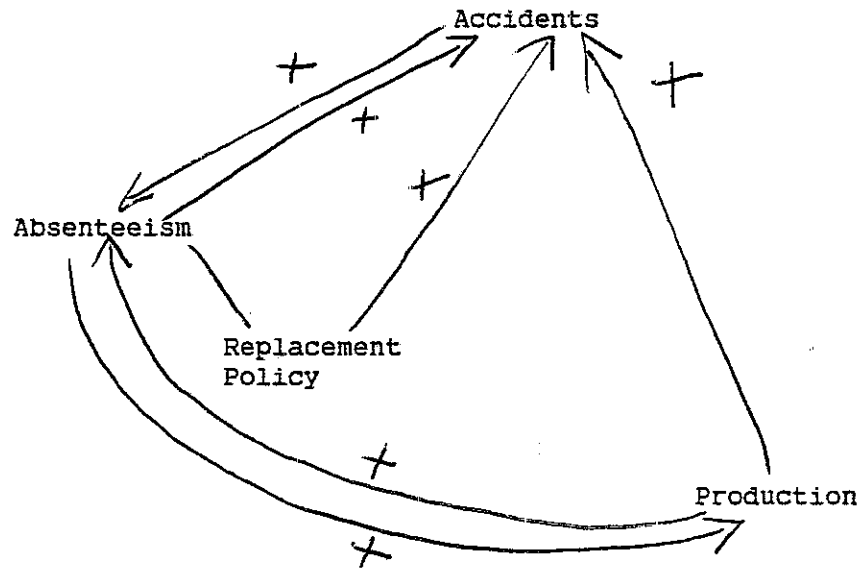


Table 3: Categories of Absentee Costs

DIRECT

- Wages
- Overtime
- Fringe Benefits
- Supervisory Costs Related to Managing Absenteeism
- Cost of Recruiting, Selecting, and Training Replacement

INDIRECT

- Loss in Productivity
- Accident Costs
- Grievance Costs Associated with Absenteeism
- Physical Overhead

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