

Commitment, Absenteeism, and Turnover of New Employees: A Longitudinal Study

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Abstract:

Longitudinal data were collected to explore the relationships among loss of commitment, absenteeism, and employee turnover. Using a median-based approach to investigate the structure of withdrawal among 52 nurses and 36 accountants, it was found that both loss of commitment and increased absenteeism preceded turnover. Decreases in commitment were better predictors of turnover than increases in absenteeism, although stayers in both occupational groups were distinguished by unchanging patterns of zero median days absent. Implications for the progression theory of job withdrawal are discussed.

Article:

INTRODUCTION

Despite the considerable costs (Mirvis & Lawler, 1977; Steers & Rhodes, 1978) and the largely negative organizational consequences (Bluedorn, 1981; Price, 1977) associated with withdrawal, our knowledge of the phenomenon is incomplete. Considerable progress has been made in understanding permanent withdrawal, i.e., turnover, and in specifying its determinants (Farrell & Rusbult, 1981; Mobley, Griffeth, Hand, & Meglino, 1979; Mowday, Porter, & Steers, 1982), but temporary withdrawal, especially absenteeism, "is still neither well understood nor accurately predicted" (Breugh, 1981, p. 55). Even recent compilations of withdrawal have characterized absence research as showing little comprehensive theory building (Mowday et al., 1982) and have summarized the state of knowledge on the topic as "not encouraging" (Mowday et al., 1982, p. 82) and "disappointing" (Chadwick-Jones, Nicholson, & Brown, 1982, p. 6). In order to better understand the process of organizational withdrawal, data are presented from two longitudinal studies of the first year of employment of accountants and nurses.

Withdrawal problems are especially severe among new employees. Nearly half of all turnover is concentrated in the first year of service in the organization (Price, 1977; Wanous, 1980). Full membership or "settled connection" (Rice, Hill, & Trist, 1950, p. 259) is possible only if workers survive "induction crises" and periods of "differential transition." Until members feel settled within the organization, they typically invest few resources and avoid deepening involvement. In the early employment period, commitment to the organization is not a very stable attachment (Mowday et al., 1982, p. 55). Over time, more physical resources, such as living arrangements, are invested in the job thereby enhancing outcomes and making it easier to meet the demands of employment (Rusbult & Farrell, 1983). Thus, from the point of view of the new employee, each added day of employment improves the future, but continuing an unpromising association merely serves to increase cost upon exit.

The relationship between employee tenure and absenteeism is less clear than the tenure-commitment or the tenure-turnover relationships. Researchers have reported no relationship between length of service and absenteeism (Hill & Trist, 1955; Weaver & Holmes, 1972; Nicholson, Brown, & Chadwick-Jones, 1977), a negative relationship (Baumgarten & Sobol, 1959; Metzner & Mann, 1953; Waters & Roach, 1971; Bernadin, 1977), and a positive relationship (Baumgarten & Sobol, 1979; Martin, 1971). One possible resolution of these contradictory findings was provided by Garrison and Muchinsky (1977) who found that tenure was positively correlated with paid absenteeism and negatively correlated with unpaid absenteeism. In their study, this pattern, of course, partially reflected an organizational policy that awarded more days of paid absence to employees with greater tenure.

The nature of the relationship among commitment, absenteeism, and turnover is a matter of some controversy. While some theoretical presentations have suggested that absenteeism may serve as a substitute for turnover (Steers & Mowday, 1981; Steers & Rhodes, 1978), most of the theoretical literature (for a divergent view see Clegg, 1983) contends that before individuals leave an organization, they progress through a series of stages of psychological and behavioral withdrawal. Herzberg, Mauser, Peterson, and Capwell (1957), for example, asserted that absence is a "miniature" form of turnover. Melbin more clearly stated the position that:

leaving a job is the outcome of a chain of experiences building up to the final break ... events on a smaller scale may be signs of coming departure ... high absenteeism appears to be an earlier sign, and turnover the dying state of a lively process of leaving (1961, p. 15).

In a review of absenteeism research, including 20 studies also considering turnover, Muchinsky stated "the results of previous studies indicated that there is a progression of behavioral withdrawal from absenteeism to turnover" (1977, p. 332). The evidence behind this claim embraces a wide range of subject groups including factory workers (Hill & Trist, 1955), psychiatric aides (Melbin, 1961), industrial apprentices (Ronan, 1963), and student nurses (Revans, 1964). Regrettably, Muchinsky (1977) notes, most of the studies employed one-shot retrospective comparisons for differences in absenteeism between leavers and stayers, a method not well suited to verification of temporal ordering. One study reported in the review did attempt to show temporal ordering in absenteeism and turnover among new telephone operators (Burke & Wilcox, 1972). However, as Adler and Golan (1981) note, by not including psychological withdrawal, Burke and Wilcox (1972) may have only demonstrated that absenteeism increases after a decision to quit has been made. Waters and Roach (1979) also report findings related to progression theory. In their study, a survey of job satisfaction and intention data was followed by measurement of absenteeism and turnover in two subsequent 1-year periods. Waters and Roach (1979) did not find a significant correlation for intention and absenteeism in the subsequent year, but did find that absence and intention data added to the prediction of turnover in the same year. The inclusion of psychological involvement or commitment as part of permanent withdrawal has been suggested by Mobley (1977) and Porter, Crampon, and Smith (1976). The inclusion of these variables in temporary withdrawal models has been proposed by Steers and Rhodes (1978) and empirically applied by Hammer, Landau, and Stern (1981). Most studies of absenteeism, however, have not employed the commitment construct, relying instead on job satisfaction as an attitudinal predictor (Nicholson, Brown, & Chadwick-Jones, 1977; Johns, 1978).

The need for a repeated measures longitudinal design to test the predictions of the progression model of job withdrawal has been widely recognized (Mobley, 1982; Mowday et al., 1982; Muchinsky & Tuttle, 1979). In fact, however, such designs have rarely been employed due to the difficulty of tracing a cohort over time. In order to test the progression model, the present study employed repeated measures of the major variables. Four administrations of a questionnaire were conducted in the first year, thus permitting a closer-grained analysis of withdrawal than is usual for withdrawal research. While no clear cues exist as to what an appropriate interval might be, six weeks (Bateman & Organ, 1983) was believed to be too short in a study of job satisfaction and citizenship behavior. In the present study, involving attrition, a 12-week interval provided a compromise between number of measurement points and number of cases at each point.

It has been recognized that the analysis of commitment, absenteeism, and turnover data poses special problems. Mowday, Steers, and Porter (1979) investigated the psychometric properties of a complex commitment index across nine samples and reported that the means ranged from 4.0-6.1 on a 7-point Likert scale, indicating an upward scoring bias. In addition, absence behavior is known to be nonnormally distributed (Angle & Perry, 1981). Hammer and Landau (1981) cite nonnormal sample distributions as "serious defects" in absence data. Investigating a variety of absence measures, these authors reported that "sample distributions of absenteeism are positively skewed and truncated by the presence of a large number of zero values" (Hammer & Landau, 1981, p. 576). It was also reported (Hammer & Landau, 1981) that voluntary and involuntary absences could fluctuate widely between time periods and that some sample distributions contain extreme values or outliers. The application of ordinary least-squares techniques, including regression and correlation, to distributions with these characteristics is known to attenuate correlation coefficients, increase standard errors, and produce unstable results (Hammer & Landau, 1981).

Though not widely used in vocational research, median-based statistics minimize problems associated with skewed, truncated, and nonnormal distributions and with small sample size. Exploratory data analysis (EDA) techniques (Hartwig & Dearing, 1979; Leinhardt & Wasserman, 1979; Tukey, 1977), designed for the analysis of social and behavioral data, provide such a set of procedures. EDA has three principal advantages for the analysis

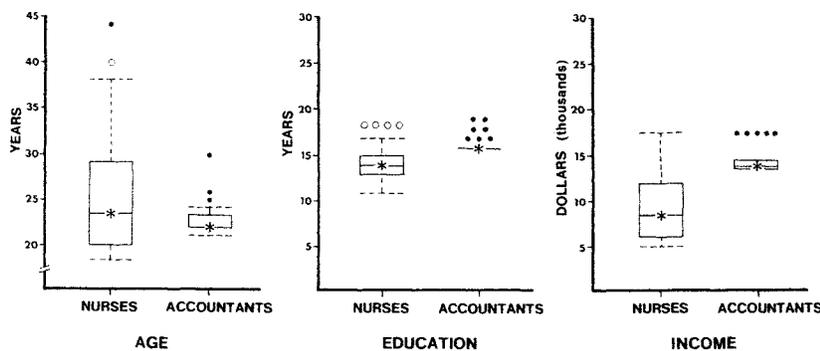


Fig. 1. Box plots of age, income, and education for nurses and accountants.

of withdrawal behavior. First, EDA promotes the use of reexpressions or transformations, thus avoiding dependence on arbitrary metrics. As Muchinsky (1977) has reported, "the metric or

measurement of absenteeism" is a vexing problem in absence research. Second, EDA helps minimize problems associated with truncated or nonnormal distributions. In statistical terminology, these techniques exhibit resistance (large deviations in a small subset of data have little impact on the results) and robustness (changes in the underlying distribution affect results very little). Third, the largely median-based statistics eliminate the difficulties posed by extreme scores, a common problem of small data sets. The analyses reported below employ median-based techniques (conventional and EDA) as a methodological adaptation to the data problems posed by commitment, absenteeism, and turnover.

METHOD

Respondents

Data for this study were collected during 1979 and 1980 as part of a program of research dealing with commitment in work organizations. The respondents were either newly hired junior staff accountants of a "big eight" auditing firm in a large Eastern city, or were newly hired members of the nursing staff of a 500-bed hospital in a medium-sized city, also located in the Eastern United States. These research sites were selected for this study because, while typical of white-collar organizations, they differed on their absenteeism control policy. In the accounting firm, no absenteeism records are routinely maintained; the policy is to pay employees for days missed. The hospital, in contrast, allows no paid absenteeism for the first 9 months, at which time employees accrue paid sick days at the rate of 1 day per month if no other absenteeism occurs. Having secured the cooperation of the employing organizations, new employees were contacted during the late summer and early fall of 1979. Thirty-six of 46 accountants (78.3%) and 52 of 90 nurses (57.8%) agreed to participate on a voluntary and confidential basis, return of the first questionnaire signifying willingness to answer "several additional" questionnaires over the next year.

Figure 1 presents a series of box plots which display the distribution characteristics of nurses and accountants on three background variables: age, education, and income. These box plots are graphic displays of data dispersion, where the summary elements are median related. An asterisk is placed at the median, the boxes extend from the lower to upper quartiles, and the whiskers (broken lines) extend to and terminate at, the most distant data point within one interquartile distance (equal to the length of the box). Outliers, data points beyond the ends of the broken lines, are indicated by open circles. Extreme outliers, those over 1.5 interquartile distances from the upper or lower quartile, are indicated by closed circles. In the event that data were normally distributed, approximately 95010 of the cases would be located between the ends of the broken lines.

As the plots indicate, there is greater variation on all three variables among nurses. The median age of nurses (23.5) and accountants (22) were similar, but the variation for nurses is greater (interquartile distance, nurses = 9, accountants = 1) because the sample of new employee nurses included people beginning their careers, changing jobs, and returning to nursing after raising a family. In contrast, the accountant sample was composed mostly of people beginning their careers. Apparently, variations in time of work and days of work led many in the nurses sample to conclude that they would work less than 2000 h that year and thus they anticipated low income (Md = \$8790.00). An additional explanation for the low income is the level and range of nurse education (Md = 14.0 years). This sample included LPNs, RNs, and baccalaureate nurses.

All of the accountants had at least bachelors degrees (Md = 16.0 years), and some had graduate and professional degrees. The income differences among accountants were small, and reveal a pattern reflecting two educational levels.

Procedure

Data were obtained through mailed questionnaires and through company records. All respondents received a questionnaire at their home at the end of the third week of their new job, and if they participated initially, every 3 months for 1 year. Responses were returned by mail directly to the principal investigator. Using self-reports of organizational conditions has been shown to be valid in several recent studies (Newman, 1975; Nicholson, Wall, & Lischeron, 1977). Nicholson, Wall, & Lischeron (1977) found that when anonymity was assured, inaccuracies in self-reports of absenteeism were found to be minor and not to differ significantly from ordinal rankings of objective measures.

Measures

The initial questionnaire measured absenteeism by asking respondents to report the number of scheduled work days missed since beginning their new job. At each of three subsequent times, respondents were asked to report the average number of days missed per month in the last 3 months. Given the short time period covered by each questionnaire, it was assumed that respondents could report accurately on absences for the period. A time measure was selected because it is the most frequent measure of absence (Chadwick-Jones et al., 1982, p. 55).

Turnover was measured through objective data. The dates of employee exits were provided at regular intervals by the employing organizations. One employee exit was mutually acknowledged to be involuntary and was excluded from the analysis. The remaining cases of turnover are considered to be voluntary. During the first year these turnovers included 38% of the nurses and 22% of the accountants. By the conclusion of the initial survey, nine employees had left their new jobs. Six more left by the end of the second survey, nine more left by the end of the third survey, and four more, all nurses, left before the end of the fourth survey. No research contacts were attempted after employees left their firms.

The measure of job commitment used in employee surveys was adapted from a previous study of job commitment and turnover (Farrell & Rusbult, 1981). Job commitment was measured (all times) by four items asking these questions: "How likely is it you will stay at this job?", "How likely is it that you will quit the job you have now?", "How committed are you to this job?", and "How attached do you feel to this job?". Anchored 9-point semantic differential response categories were provided for each question. When summed in an index, the scores ranged from 4-36. At each administration of the index, the inter-item reliabilities were high: time one = .88, time two = .92, time three = .92, time four = .93. Acknowledging Mow-day et al.'s (1982) distinction between behavioral and attitudinal commitment, the measure of commitment employed in the present research includes behavioral commitment, i.e., likelihood of staying and likelihood of quitting and some elements of attitudinal commitment, i.e., desire to remain and, feelings of attachment.

FINDINGS

Commitment and Turnover

Patterns in data are frequently obscured by metrics which have been arbitrarily chosen while measuring variables. Generally, it is desirable to make univariate distributions symmetrical before moving on to look at bivariate relationships. In order to obtain greater symmetry, commitment scores were reexpressed by squaring raw scores, yielding a new range of 16-1296.

In order to examine the relationship between commitment and turnover, median traces are plotted for the transformed commitment scores for stayers and for leavers who exited after the second, third, and fourth survey administration. Among nurses, each turnover group shows a decline in commitment prior to exit. Persons leaving after time two decline from 450 to 320, those leaving after time three decline from 576 to 256, and those leaving after time four decline from 361 to 26. Nurses who remain, by contrast, show slight increases in commitment over the 12-month period (time one Md = 529, time four Md = 676).

A similar and perhaps slightly accentuated pattern is apparent among accountants. Overall declines in commitment are sharper and exits occur sooner in this group (there were no fourth-wave leavers). Accountant leavers after the second wave show commitment dropping from 672 to 44; those who left after time three drop from 1128 to 324. The commitment scores of accountants who remained through the first year vary over the four measurement points but present a basic pattern of stability (time one Md = 600, time four Md = 529). The patterns of early exit among leavers and greater variability for accountant stayers are consistent with the CPA 2-year experience requirement. These workers serve themselves best by leaving early or staying a full 2 years.

Commitment and Absenteeism

The relationship between commitment and absenteeism is also displayed in Fig. 2. The solid lines and right-hand scale plot group median absenteeism in days lost per month. Figure 2 reveals that among both nurses and accountants who remain with their employers over the first year of employment, the level of absenteeism, like commitment, remains quite stable. The median level of absenteeism during the first month was zero for staying nurses and accountants and these medians do not increase over the year.

In contrast, the graphs of the leavers show increases in absenteeism concomitant with decreases in commitment. This inverse relationship is apparent for both accountants and nurses who left after time two (time one absenteeism Md = 0, time two absenteeism Md = .5 days), for nurses who left after time three (time one absenteeism Md = 0, time three Md = 1.0 day), and for nurses leaving after time four (time one absenteeism Md = 0, time four Md = 1.0). The only exception to the pattern of inverse relationship exists among accountants who left after the third measurement period. The median absenteeism for this group did increase between time one and time two, but then declined between time two and time three.

Absenteeism and Turnover

When contrasting leavers with stayers in these data, leavers can be distinguished since they abandon a median pattern of perfect attendance. In responses taken at the end of the first month, there are no differences among eventual leavers and stayers, as the median number of absences is zero. Figure 2 shows that increases in absenteeism precede turnover in four of the five

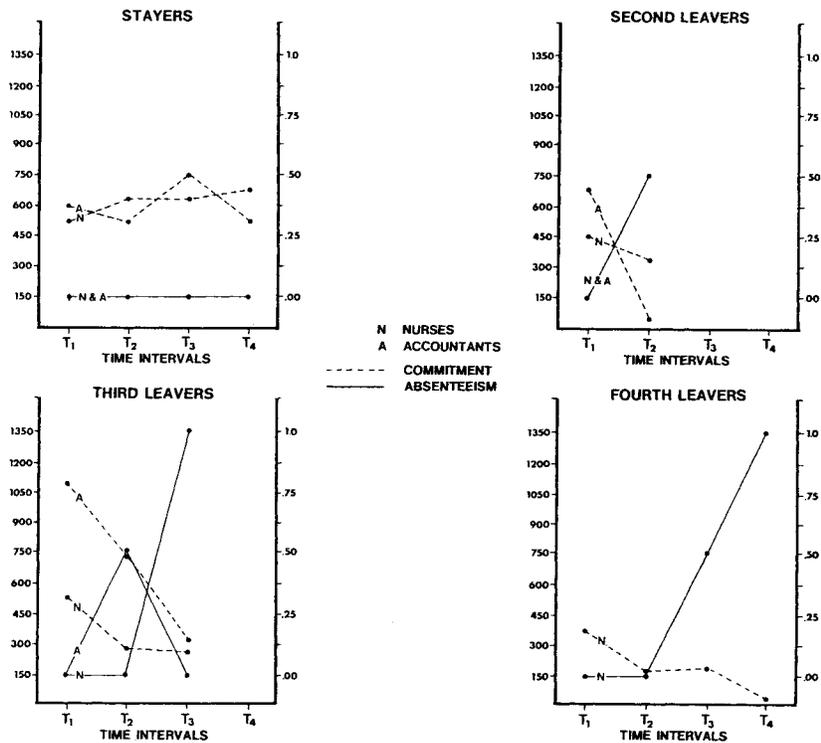


Fig. 2. Median traces of transformed commitment scores and days absent by turnover groups: new white-collar workers.

leaver groups. Stayers show a remarkably consistent pattern; the median number of absences is zero for both nurses and accountants at all four time periods.

Knowledge of the structure of withdrawal and the prediction of withdrawal behaviors will be enhanced if a temporal ordering is specified among commitment, absenteeism, and turnover. Among leavers, there are simultaneous decreases in commitment and increases in absenteeism, for both nurses and accountants, prior to exit.

The accountants among third-wave leavers partly continue the trend of simultaneous changes. There are initial declines in commitment and increases in absenteeism, but a decline in absenteeism immediately preceded exit. A pattern of sequenced change is apparent among nurses who left after the third time point. In this case, a decline in commitment precedes the rise in absenteeism which, in turn, is followed by exit. This sequenced pattern is also present among nurses leaving after the fourth time point. Of the two trends just described, more evidence supports the notion of simultaneous changes in the precursors of turnover. Given these data and the fact that the measurement intervals in the present study are much shorter than is common in most turnover studies, it is concluded that it is unlikely that researchers will find strong evidence of sequential withdrawal among new employees. The impact of occupational differences, which confound the withdrawal pattern in these data, is unknown. Additional studies are required to explore the significant occupational differences.

DISCUSSION

The central question of this study is: what, if any, structure is present in the withdrawal patterns of new employees? The findings are that job commitment and absenteeism are inversely related and that declines in commitment and increases in absenteeism precede organizational turnover. No strong evidence is present supporting an elongated sequential progression, where declining attitudes, i.e., commitment, precede temporary withdrawal (absenteeism) and these episodes foreshadow permanent withdrawal (turnover).

The collection of comparable longitudinal data for nurses and accountants permits an examination of occupational differences in the pattern of withdrawal. Occupational comparisons are clouded somewhat by the existence of different absence control policies for the two groups and by greater variability in age, education, and income among the nurses. Nurses show a higher rate of turnover (38%) than do accountants (22%) in the present data. Accountants who left during the study appear to show sharper drops in job commitment (psychological withdrawal) than nurses who were leavers. Nurses seem to display somewhat higher absenteeism (temporary withdrawal) prior to exit than accountants. Among those employees who stayed with their organizations, both groups show virtually identical patterns of commitment and absenteeism.

Caution should be taken not to overgeneralize these findings. Unlike most previous research, the current study collected data on withdrawal at frequent intervals. This has the virtue of permitting a close-grained analysis of the withdrawal process, although at the price of making conventional least-squares analysis inappropriate. It should also be recognized that other patterns are possible among longer-term employees. Further research following larger cohorts over longer periods of time would enable researchers to determine if patterns found in the present study are confined to new employees or are, in fact, more general.

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