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Meaning and Measurement of Turnover: Comparison of Alternative Measures and Recommendations for Research

Michael A. Campion
Krannert School of Management
Purdue University

In a review of two areas of turnover research—individual motivated choice behavior and organizational consequences—five alternative turnover measures are defined: reasons, voluntariness, avoidability, functionality, and utility. Turnover data for one year (1987) were gathered from 325 former employees, 568 supervisors, 418 replacement employees, and the personnel files of a university. Analyses indicated that organizational records are deficient as a source of information, especially because of the usual practice of recording a single reason for turnover. Voluntariness may result in a classification system that is too gross for validating motivational models. Avoidability, functionality, and utility each measure unique aspects of organizational consequences, but each has limitations. Turnover measures should be viewed as continua rather than as dichotomies. Recommendations for future research are provided.

Turnover research has been a consistent theme in the human resources and organizational behavior literature for over 30 years (for early reviews see Brayfield & Crockett, 1955; Herzberg, Mausner, Peterson, & Capwell, 1957; and March & Simon, 1958). Reviews and commentaries have frequently called for refinement of constructs and improvement of measures (e.g., Forrest, Cummings, & Johnson, 1977; Mobley, Griffeth, Hand, & Meglino, 1979; Muchinsky & Tuttle, 1979; Porter & Steers, 1973; Price, 1977; Schuh, 1967). For example, Mobley et al. stated, "Although turnover is often thought of as a 'clean' objective criterion, . . . [there is a] need for greater attention to the criterion problem in turnover research" (p. 151). Likewise, Muchinsky and Tuttle stated, "On the whole, very little consideration has been given to the measurement of turnover in psychological research" (p. 65). The purpose of the present study was to focus directly on the appropriateness and meaning of alternative measures of turnover.

Aside from studies on the calculation of turnover rates and survival curves (e.g., Price, 1976; Van Der Merwe & Miller, 1971), the measurement of turnover has generally been approached in two distinctly different ways. The most frequent approach has been to treat turnover as an instance of motivated individual choice behavior to be predicted through models of various antecedents (e.g., job satisfaction). The bulk of the literature cited in the previous paragraph has this focus. The second approach has been to focus on the consequences of turnover for the organization. Research by Dalton, Krackhardt, and Porter (1981) and Boudreau and Berger (1985a) is illustrative of this focus.

In this article, these two areas of research are reviewed, and the alternative measures within each area are described to clarify the definitions of the turnover constructs (Schwab, 1980). Interrelationships between turnover measures (Cronbach & Meehl, 1955) are examined through the comparison of multiple measures and multiple methods (Campbell & Fiske, 1959) in a large organization. The ultimate goal is to provide recommendations for the measurement of turnover in future research.

Turnover as Individual Motivated Choice Behavior

The focus on turnover as individual motivated choice behavior was evident in early reviews (Brayfield & Crockett, 1955) and discussions (March & Simon, 1958; Vroom, 1964). Although initial models examined little more than overall job satisfaction as a correlate of turnover (see Cotton & Tuttle, 1986, for a review of correlates), increasingly complex models of decision processes were developed over time (e.g., Mobley et al., 1979; Muchinsky & Morrow, 1980). When concern about turnover measures arose in these studies, the focus was on ensuring that the turnover reflected employee choice (i.e., was voluntary). Thus, initial concern with the measurement of turnover was simply to ensure that the dependent variable was appropriate when the application of motivational models was studied. For example, if some of this turnover reflected the organization's decision that it no longer wanted or needed the individual (e.g., termination for poor performance or layoff for reduction in force), then it would be unreasonable to expect that motivational models would predict this *in*voluntary turnover. Studies in which both voluntary and involuntary turnover were explicitly examined have found them differentially predictable (e.g., Campion & Mitchell, 1986; MacKinney & Wollins, 1959; McEvoy & Cascio, 1987; Stumpf & Dawley, 1981; Wild, 1970).

Several measurement problems have arisen in the research

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Correspondence concerning this article should be addressed to Michael A. Campion, Krannert School of Management, Purdue University, West Lafayette, Indiana 47907.

on turnover as individual choice behavior. First, as noted by Muchinsky & Tuttle (1979), it is unclear in most studies whether the focus was on voluntary or involuntary turnover because measurement procedures were not explicit. This lack of clarity is found despite the fact that early reviews encouraged an emphasis on voluntary turnover (Schuh, 1967; Vroom, 1964). Voluntary turnover is explicitly emphasized in more recent reviews (Muchinsky & Morrow, 1980) or is implied by the term *employee withdrawal behavior* (Mobley et al., 1979; Porter & Steers, 1973).

Second, some previous research has been troubled by the use of tenure as a surrogate measure of turnover. Studies have differed widely in the definition of long versus short tenure (e.g., Kephart [1948] defined long tenure as 10 months, whereas Mayeske [1964] defined short tenure as 13 years), and comparing long- versus short-tenure employees is qualitatively different from comparing leavers versus stayers (Kemery, Dunlap, & Bedeian, 1989; Muchinsky & Tuttle, 1979; Schuh, 1967). It is an unproven assumption that short-tenure employees are equivalent to those who leave an organization.

Third, the accuracy of organizational turnover data may be questionable. Most organizations record reasons for turnover as part of routine personnel record keeping, and from these data, researchers classify turnover as either voluntary or involuntary. Reasons taken from company records cannot be trusted blindly, however, and classification of turnover as voluntary or involuntary may be ambiguous (Mobley et al., 1979). The data may be "inflicted with an indeterminable amount of measurement error" (Muchinsky & Tuttle, 1979, p. 66). Inaccuracy of measurement can create problems with both criterion contamination and deficiency. As examples, some record keeping systems may allow only a single reason for turnover to be recorded even though there could be several reasons; face-saving reasons may be recorded to ease an unpleasant termination (e.g., "quit" recorded rather than "fired"); general categories that have little meaning may be overused (e.g., "personal reasons"); and the same reasons may be classified differently (e.g., Marsh & Mannari [1977] described pregnancy as voluntary, whereas Mirvis & Lawler [1977] and Waters, Roach, & Waters [1976] described it as involuntary). There is also evidence that the degree of agreement among multiple sources (e.g., personnel files and former employees) is not always high (Hinrichs, 1975; Lefkowitz & Katz, 1969).

A fourth measurement problem is that the distinction between purely voluntary and involuntary turnover may be artificial. In many cases, the decision is a function of both the organization and the individual (e.g., a marginally performing employee agrees to quit before being fired; Bluedorn, 1978). Voluntariness may be better conceived as a continuum ranging from completely voluntary (e.g., the employee takes a better job) through mutual agreement (e.g., the employee agrees to quit because of disagreements with management) to completely involuntary (e.g., the organization lays off the employee as part of a reduction in force).

Because continuous measures are more sensitive to the variability of underlying attributes, they may be more highly correlated with other measures than are dichotomous measures. Dichotomous measures reduce statistical variance, making the detection of relationships less likely. Dichotomizing a variable at the mean reduces the variance accounted for to 65%, similar to the loss of statistical power resulting from a 38% reduction in sample size (Cohen, 1984). Costs are even larger as dichotomization departs from the mean, as might be the case with turnover measures (e.g., most turnover is voluntary). Finally, continuous measures could focus attention on cases of mutually decided separations, which have received little study (Boudreau & Berger, 1985b).

In this study, data on the reasons for and voluntariness of turnover were collected from personnel files, supervisors, and former employees. Multiple reasons were collected when necessary, and voluntariness was assessed as a continuum.

Turnover Consequences for the Organization

The second area of turnover research has been focused on consequences for the organization. This concern did not appear in the literature until a little more than a decade ago (e.g., Dalton & Tudor, 1979; Jeswald, 1974; Mobley, 1982; Muchinsky & Tuttle, 1979; Porter & Steers, 1973; Staw, 1980). This research challenges the often implicit assumption that all turnover, or at least all voluntary turnover, is undesirable for the organization. There have been at least three refinements to the concept of turnover consequences.

The first refinement was to recognize that organizations feel unable to do anything about some turnover (e.g., family moves, midcareer changes, disability, returns to school, and death). Although the avoidable–unavoidable distinction was designed to show the organization's potential for controlling turnover (e.g., Abelson, 1987), it may also bear indirectly on organizational consequences. Other things being equal, turnover is unfavorable to the extent that it is unavoidable through any action the organization believes it can take. Stated differently, losing employees because of uncontrollable factors is generally viewed by organizations as unfavorable. Conversely, avoidable turnover may be favorable if an organization could have prevented an employee's leaving but decided not to for some reason (e.g., the required pay increase was too large, the organization was unwilling to change supervisors, it was too expensive to improve working conditions, the employee's performance was poor, or the organization needed to reduce the work force). Avoidability has been used dichotomously but may be better used continuously. For example, quitting for a small pay increase is more avoidable than quitting for a promotion, which is more avoidable than quitting to raise a family. A continuous measure recognizes that most turnover is avoidable at some extreme (e.g., tripling the pay) and that avoidability is a matter of reasonableness within the constraints of the organization. Also, turnover may be more avoidable for some organizational decision makers than for others (e.g., executives can influence where a reduction in force will occur, whereas supervisors cannot).

The second refinement was to determine whether turnover is functional or dysfunctional for the organization (Abelson & Baysinger, 1984; Dalton et al., 1981; Dalton, Tudor, & Krackhardt, 1982; Hollenbeck & Williams, 1986). Dalton et al. (1981) defined functionality in terms of the organization's evaluation of the individual. That evaluation was based on three questions: Was the individual a poor performer? Would the organization be reluctant to rehire the individual? Can the individual be

easily replaced? Only dysfunctional turnover was considered bad for the organization (e.g., the loss of good performers that the organization would rehire and who will be hard to replace). Functionality should be measured continuously because its components (e.g., job performance) are measured continuously.

The third refinement was to consider cost and the fact that organizational consequences can only be fully understood when the replacement employee is also considered (Boudreau & Berger, 1985a). According to this utility analysis, the consequences depend on (a) the productivity of the former employee relative to that of the replacement employee, (b) the cost differences between the employees (e.g., salary and benefits), and (c) the costs of the transaction (e.g., processing the termination and recruiting the new employee). All else being equal, turnover is considered positive if the exchange results in more productive employees or if higher paid employees are replaced with lower paid employees. When both productivity and cost differences are considered, many types of turnover can be shown to have positive utility (e.g., exchanging a good performer for another good performer with a smaller salary, exchanging a good performer for a more moderate performer but at a much smaller salary, or exchanging a good performer for an excellent performer with only a slightly larger salary). Utility is normally considered as a continuous measure.

To clarify the relationships among these turnover measures (and with those in the previous section), I collected data on avoidability, functionality, and utility. Data were obtained from former employees and supervisors for avoidability, from supervisors for functionality and utility, and from personnel files for utility. All variables were measured on a continuum.

Process and Outcome Satisfaction

Two additional measures were included to help explore the meaning of the turnover measures. These measures focus on the degree of satisfaction with turnover in terms of both process and outcomes. The distinction is analogous to that of procedural versus distributive justice (e.g., Folger & Konovsky, 1989; Greenberg, 1986). Process satisfaction refers to the procedures or means by which the departure actually occurred, whereas outcome satisfaction refers to the impact of turnover on the parties involved. These satisfaction measures were used because different turnover measures may relate to different types of satisfaction.

From the employee's perspective, process satisfaction indicates perceived fairness of treatment and pleasantness of the departure as an interpersonal experience, whereas outcome satisfaction addresses implications for career and personal life. From the supervisor's perspective, process satisfaction indicates the smoothness and pleasantness of the exchange of employees, whereas outcome satisfaction addresses implications for the quality of resulting work-group composition and achievement of department objectives. Thus, these measures are somewhat differently defined for the two parties in that they reflect employee-relations concerns for former employees and operational concerns for supervisors. These measures were included because they may help elucidate the meaning of the turnover measures. They also may be important to an understanding of turnover in their own right.

Hypotheses

Four hypotheses concerning turnover were examined.

Hypothesis 1: Reasons for turnover collected from personnel files, former employees, and supervisors will show agreement because they are alternative sources of the same measure. Although prior research suggests that agreement may not be high (Hinrichs, 1975; Lefkowitz & Katz, 1969), this study provides a stronger test because a larger sample was used, a wider range of jobs was sampled, and data were obtained from supervisors as well as from personnel files and employees.

Hypothesis 2: Other turnover measures (i.e., voluntariness, avoidability, functionality, and utility) will show convergent and discriminant validity among themselves (Campbell & Fiske, 1959). Measures of the same attribute from alternative sources should be related thus: Supervisors and former employees will correlate positively on (a) voluntariness and (b) avoidability. Some measures should generally reflect organizational choices and consequences whereas others should reflect individual choices and consequences. In other words, (c) avoidability, functionality, and utility should correlate positively because they all represent favorable consequences for the organization and (d) voluntariness should not correlate or should correlate negatively with the organization-oriented measures because turnover initiated by employees primarily serves their interests and not the organization's. This hypothesis is illustrated in Table 1.

Hypothesis 3: As noted previously, the satisfaction measures used differed for former employees and supervisors and thus were expected to show different relationships with the turnover measures. This hypothesis has two parts and is illustrated in Table 1: (a) Because voluntariness reflects employee-oriented interests, it should correlate positively with process and outcome satisfaction from the employee's perspective. Voluntariness should not correlate or should correlate negatively with process and outcome satisfaction from the supervisor's perspective. (b) Because avoidability, functionality, and utility reflect organization-oriented interests, they should correlate positively with process and outcome satisfaction from the supervisor's perspective but should not correlate or should correlate

Table 1
Predicted Relationships Among Turnover Measures (Hypotheses 2 and 3)

Measure	1	2	3	4	5	6
Turnover						
1. Voluntariness (E)						
2. Voluntariness (S)	+					
3. Avoidability (E)	0/−	0/−				
4. Avoidability (S)	0/−	0/−	+			
5. Functionality	0/−	0/−	+	+		
6. Utility	0/−	0/−	+	+	+	
Satisfaction						
7. Process satisfaction (E)	+	+	0/−	0/−	0/−	0/−
8. Process satisfaciton (S)	0/−	0/−	+	+	+	+
9. Outcome satisfaction (E)	+	+	0/−	0/−	0/−	0/−
10. Outcome satisfaction (S)	0/−	0/−	+	+	+	+

Note. E = employee; S = supervisor; + = positive correlation predicted; 0/− = no correlation or negative correlation predicted.

negatively with process and outcome satisfaction from the employee's perspective.

Hypothesis 4: Turnover reasons will relate to the other turnover measures. It could be argued that many of the measures were developed in part as shorthand indices for categories of reasons for turnover. This is especially clear with the voluntariness measure. It was used to classify those cases of turnover that might be predicted by models of individual motivated choice behavior. This is also clear with the avoidability measure, as evidenced by the fact that reasons for turnover are often used to define the measure (e.g., Abelson, 1987). Although reasons alone less clearly define functionality and utility, reasons are often used to illustrate the turnover measures used in those studies (e.g., Dalton et al., 1981; Boudreau & Berger, 1985b; respectively). In other words, the meaning of the turnover measures may be enhanced by characterizing them in terms of the categories of reasons for turnover with which they correlate.

Predictions for relationships between every specific reason and turnover measure are not presented because of their large number, but the following examples are illustrative. Turnover due to higher wages or moving is likely to be voluntary, whereas turnover due to health and reduction in force is likely to be involuntary. Turnover due to wages and working conditions is likely to be avoidable, whereas turnover due to personal reasons or moving is likely to be unavoidable. Predicting relationships relative to functionality and utility would be more speculative, and these relationships were therefore left as exploratory.

Where applicable, these hypotheses were expected to replicate when tested across sources (e.g., one measure from employees was expected to relate to another measure from supervisors), thus providing assessments that do not have common method variance (Williams, Cote, & Buckley, 1989).

Method

Samples

Data were sought from 634 former employees and 669 supervisors at a university (see Procedures section). Data were actually collected (usable data) from 356 (325) former employees and 599 (568) supervisors. Data were also collected on 449 (418) replacement employees. Samples for each analysis varied downward somewhat because of missing data. Former employees had a mean age of 39.6 years ($SD = 15.0$) and a mean tenure of 7.3 years ($SD = 9.4$); 82.6% had worked full time, 61.6% were female, 95.2% were White, 71.0% were married, and 54.0% had a four-year college degree or a more advanced degree. Twelve percent had been faculty, 32.3% had been administrative and professional workers, 27.7% had been clerical workers, and 28.0% had been service workers. In all samples, statistical power was 90% or greater to detect a correlation of .30 ($p < .05$, two-tailed; Cohen, 1977). A university was considered a good setting because of the relatively high turnover rate (e.g., 12% annually) and diversity of employees and job types.

Measures

Turnover reasons. The organizational turnover record was a form filled out by the supervisor that authorized release of the final paycheck. The form required the supervisor to choose a single reason for termination from a range of 12 employee-initiated reasons (e.g., quit for higher wages), 5 organization-initiated reasons (e.g., reduction in force), and 2 other reasons (e.g., retirement). These personnel-file data were collected for analysis because they were the official records from which the university evaluated turnover and because they are the data most likely to be used by researchers studying turnover. As noted previously, however, data from personnel files contain potential deficiencies and inaccuracies (e.g., only one reason may be recorded, face-saving reasons may be recorded, respondents become more candid over time, etc.). Thus, information on turnover reasons was also collected directly from former employees and supervisors through questionnaires.

The questionnaires did not use the categories from the official university form because those categories could have limited or artificially imposed reasons for turnover. Instead, both former employees and supervisors were asked two open-ended questions: "What was the primary reason for leaving the organization?" and "Were there any other important reasons?" Former employees were told not to be constrained by what they had told their supervisor or co-workers (supervisors were told not to be constrained by what was reported on the official form) and to give as much information as possible.

Voluntariness. Seven questions were asked of former employees and supervisors to determine voluntariness (wording changes for supervisors are in parentheses, and negative items were reversed for scoring): "It was entirely my (the employee's) decision to leave the organization."; "It was at least partly the organization's decision that I (he/she) leave."; "Informally, I (he/she) was encouraged to leave the organization."; "I am certain that the organization wanted me (the employee) to stay."; "The decision to leave was primarily made by the organization."; "The organization no longer needed me (the employee)."; and "The decision to leave was mostly mine (the employee's)." A scale ranging from 5 (*strongly agree*) to 1 (*strongly disagree*) was used. Composite scores were created by averaging items; larger values indicate more voluntariness.

Avoidability. Seven items were asked of former employees and supervisors to measure avoidability: "The decision to leave could not have been avoided by the organization."; "The organization could have made changes which would have led me (the employee) to stay."; "The reasons I (the employee) left have nothing to do with the organization."; "The organization could have convinced me (the employee) to stay."; "The factors influencing the decision to leave were beyond the organization's control."; "I (The employee) would have stayed if things were better at the organization."; and "The reasons I (the employee) left do not concern my (his/her) career at the organization." The 5-point agree–disagree scale described above was used, and composite scores were created by averaging items. Larger values indicate more avoidability.

Functionality. The three items from Dalton et al.'s (1981) measure were asked of supervisors: "Would you rehire the employee who left?" (5—*under no circumstances*, 1—*definitely*); "How would you rate the job performance of the employee who left?" (5—*inadequate*, 1—*exceptional*); and "In general, how easy would it be to find someone who would do as good a job as the employee who left?" (4—*very easy*, 1—*very difficult*). Because the scales were different, composites were formed by converting the scales to standard scores and then averaging. Larger values indicate more functionality.

Utility. A reduced form of Boudreau and Berger's (1985a) utility model was used. It comprised only productivity and pay differences between former and replacement employees.

Productivity gain was measured with five items (asked of supervisors):

1. "Compare the productivity (i.e., both the quantity and quality of the work performed) of the former employee with the average employee on this job. Was the former employee more, as, or less productive, and by how much (%)?"

2. "Compare the productivity of (i.e., both the quantity and quality of the work performed) of the replacement employee with the average

employee on this job. Is the replacement employee more, as, or less productive, and by how much (%)?"

3. "Think about the amount of work the employee who left would have done in one week. If you had to make up for that work, how much work would you have to ask other people to do (either with overtime or by working harder) in terms of hours? We realize that sometimes work does not get done when employees leave. Please provide the estimate as if the work had to be done."

4. "Think about the amount of work the replacement employee does in one week. If you had to make up for that work, how much work would you have to ask other people to do (either with overtime or by working harder) in terms of hours? We realize that sometimes work does not get done when employees leave. Please provide the estimate as if the work had to be done."

5. "Compare the productivity (i.e., both the quantity and quality of work performed) of the replacement employee with the employee who left. Is the replacement employee more, as, or less productive, and by how much (%)?"

A composite was calculated in three steps. First, the difference between Items 1 and 2 was calculated. Second, the difference (converted to percentiles) between Items 3 and 4 was calculated. Third, a three-item composite was calculated by averaging these two differences plus Item 5. Positive numbers indicated the percentage gain in productivity provided by replacement employees compared with former employees.

Pay saving refers to the difference in total compensation (i.e., salary and benefits) between each pair of former and replacement employees. Yearly salary data were obtained from personnel files. Benefits were estimated at 40% of salary (on the basis of the university's budget data and the opinions of key administrators). This figure is slightly below the national average for employee benefit costs (United States Chamber of Commerce, 1987). Differences were formed by subtraction. Positive numbers (expressed in dollars) indicate that replacement employees were paid less than former employees.

In Boudreau and Berger's (1985a) theoretical model, productivity is expressed in dollar terms and is combined with costs to yield one overall index of utility. This procedure was not used in this study because of the difficulty in estimating the dollar value of productivity, especially in a public sector organization such as a university. There were also other components of the model that were not considered, including tenure of replacement employees, transaction costs (e.g., processing terminations and recruiting replacements), the length of time the position was vacant, lost productivity during the learning period, taxes, and interest rates. Hence, although this study goes beyond previous empirical research in examining utility consequences of turnover, it should still be considered an incomplete demonstration.

Process satisfaction. Four items measured satisfaction with the departure process from the perspective of former employees: "On a personal level, the departure from the organization was positive."; "All and all, I was treated fairly in my departure from the organization."; "There were some bad feelings generated by my departure from the organization."; and "In general, I was satisfied with my departure from the organization." Four analogous items were asked of supervisors: "The process of exchanging employees was very disruptive."; "There were some bad feelings generated by the departure of the former employee."; "The process was a very smooth transition of employees."; and "I am personally satisfied with the process of the exchange of employees." The 5-point agree–disagree scale was used. Composites were created by averaging items, with larger values indicating more satisfaction.

Outcome satisfaction. Four items measured former employees' satisfaction with outcomes: "My career is better off now than when I was at the organization."; "My family and/or nonwork life is better off now than when I was at the organization."; "My career is worse off now than when I was at the organization."; and "In general, my life is happier now than when I was at the organization." Four items were asked of supervisors on their outcomes: "The work group is better off now than before this exchange of employees."; "It is now harder to achieve the work group's objectives since this exchange of employees."; "Other people in the work group think this exchange of employees was good for the group."; and "Overall, I am satisfied with this exchange of employees." The 5-point agree–disagree scale was used. Composites were created by averaging items, with larger values indicating more satisfaction.

Procedure

All instances of turnover among regular full- and part-time employees (i.e., not including temporary employees and leaves of absence) for one year (1987) were studied. Every effort was made to maintain the maximum possible sample size. Some sensitive employee-relations cases ($n = 35$ or 5.5%; e.g., some firings) were excluded from the former employee sample but not from the supervisor sample. Retirements ($n = 113$) were included because employees had wide latitude about when to retire (e.g., beginning at age 50 with 15 years tenure) and, prior to mandatory retirement at age 70, decisions were made by employees. Excluded were 10 deceased employees and 8 replacement employees who assumed different jobs or conditions than former employees (e.g., different duties as indicated by supervisors, or different work schedules as indicated by personnel files). The study took place in March and April of 1988, 3 to 15 months after turnover occurred.

Questionnaires were sent to former employees at their homes. First class postage was used to ensure that the questionnaires were forwarded if an address was available. Other procedures also helped increase the response rate, including the use of high quality paper and printing, a short-appearing questionnaire, a personalized letter with an original signature, preaddressed and prestamped return envelopes, and a second mailing to nonrespondents (Warwick & Lininger, 1975). The response rate, excluding 55 employees who left no forwarding address, was 61.5%. Comparisons of respondents with nonrespondents revealed nonsignificant differences on age, education, tenure, salary, full- versus part-time status, and most reasons for termination. Respondents were slightly more likely to have held clerical jobs and to be female, married, White, or retired and were slightly less likely to have held service jobs or to have been discharged for reduction in force or poor performance (as expected because some sensitive cases were excluded as described above).

A questionnaire for each instance of turnover was sent to supervisors through internal university mail. The procedures described in the previous paragraph were followed to increase the response rate; in addition, advance communication and assistance was provided by human resource representatives of the university. The response rate was 89.5%. Supervisors provided the names of replacement employees, which were confirmed against personnel files.

Supervisor questionnaires were pilot tested with university supervisors taking part in an executive training program; former-employee questionnaires were pilot tested with human resource representatives. Personnel data were obtained from files. For accuracy, questionnaires were precoded with employee names, titles, departments, and social security numbers, with space provided for corrections.

The study was sponsored by the directors of the personnel and affirmative action departments, and the letter to participants carried their signatures. Former employees were told that the purpose was to provide more accurate information on reasons for turnover; supervisors were also told that the purpose included the assessment of organizational consequences. Questionnaires were not anonymous, but respondents were assured that other parties would not see their individual results. Human-subjects committee approval was obtained.

Results

Preliminary Analyses

Principal components analyses with varimax rotation were performed on the 22 items of the former-employee questionnaire and on the 30 items of the supervisor questionnaire to examine their dimensionality. For the former-employee questionnaire, four factors emerged with eigenvalues greater than 1.00, and they explained 71% of the total variance. With very minor exceptions, the factors reproduced the four scales in the questionnaire (i.e., voluntariness, avoidability, process satisfaction, and outcome satisfaction) in that all the items for each scale loaded together and heavily on only one factor. For the supervisor questionnaire, five factors emerged with eigenvalues greater than 1.03, and they explained 70% of the total variance. Three of the factors clearly reproduced three of the scales (i.e., voluntariness, avoidability, and process satisfaction). However, the outcome satisfaction, functionality, and productivity gain items loaded on the same factor, except for the overtime items, which loaded on a separate factor. Despite this overlap, the scales were kept separate for analysis because they were conceptually distinct and because their interrelationships were examined on the basis of hypotheses. Likewise, the overtime items were combined with the other productivity gain items because they were interrelated (average $r = .31$) and formed a scale with acceptable reliability (as described later).

Descriptive statistics are shown in Table 2. Most turnover was voluntary and unavoidable. Functionality items (not shown) had means near the middle of the scales. Mean productivity gain and pay saving were small, but variation was large. Process and outcome satisfaction tended to be positive.

Reliability of continuous measures was assessed through internal consistency (Cronbach, 1951); all measures had acceptable levels of reliability (Table 2). Reliability of reasons for turnover was assessed with Cohen's (1960) kappa index of agreement on classification. The 826 reasons provided by supervisors and the 542 reasons provided by former employees were coded by two independent analysts. Categories on the university's form were used so that comparisons could be made. Before coding, analysts met with human resource representatives to learn the university's interpretation of each category. Even though respondents were asked for primary versus other reasons separately, their answers did not clearly reflect that distinction (e.g., multiple reasons were given in the space for the primary reason, the primary reason was written in the space for other reasons, overlapping reasons were written in both spaces, etc.). The analysts therefore used responses to both open-ended questions to code the reasons for turnover. Multiple reasons were coded when needed, with three emerging as the necessary maximum. Both analysts coded all reasons, and differences were discussed (and subsequently corrected) after each half of the reasons for each sample had been coded. Agreement on any one code assigned to a respondent was 94.0% for supervisors and 91.8% for employees. Cohen's kappa, which represents the percentage of agreement beyond chance level, was 93.8% and 91.0%, respectively. Agreement on the total codes assigned was 69.9% for supervisors and 69.8% for employees (kappas of 65.8% and 66.3%). Thus, reliability of the coding of reasons was

Table 2
Means, Standard Deviations, Reliabilities, and Correlations Among the Scaled Measures

Measure	*n*	*M*	*SD*	*r*[a]	1	2	3	4	5	6	7	8	9	10	11
1. Voluntariness (E)	307	4.27	1.00	.92	—										
2. Voluntariness (S)	548	4.22	0.94	.90	.59*	—									
3. Avoidability (E)	304	2.71	1.24	.94	−.44*	−.24*	—								
4. Avoidability (S)	545	2.16	1.04	.90	−.16*	−.32*	.40*	—							
5. Functionality	549	0.00	0.90	.88	−.32*	−.55*	.22*	.15*	—						
6. Productivity gain	228	5.44	27.03	.78	−.11	−.31*	.09	.06	.53*	—					
7. Pay saving	403	1,499	4,694	—	.05	.12*	.01	.01	−.14*	−.16*	—				
8. Process satisfaction (E)	310	4.10	0.95	.81	.66*	.39*	−.54*	−.17*	−.29*	−.13	.25*	—			
9. Process satisfaction (S)	408	3.62	0.87	.95	.08	.06	−.11	−.25*	.05	.19*	.10	.13	—		
10. Outcome satisfaction (E)	299	3.66	0.98	.86	.17*	.06	.08	.23*	−.10	−.03	.07	.18*	−.04	—	
11. Outcome satisfaction (S)	405	3.67	0.95	.80	−.21*	−.37*	.09	.04	.62*	.65*	−.16*	−.22*	.30*	−.08	—

Note. E = employee; S = supervisor.
[a] Internal consistency reliabilities.
* $p < .05$ (two-tailed).

judged acceptable. Differences were discussed and consensus codes were assigned in all those cases in which agreement was not observed.

Tests of Hypotheses

Hypothesis 1. Personnel files, supervisors, and former employees were expected to agree on reasons for turnover. Classifications for 278 cases with data from all sources are presented in Table 3. (Note that examining just those cases in which data was available from all sources reduced the number of reasons examined in this analysis from the total given in the previous paragraph.) Although there was similarity in the proportion of reasons in each category, there were some noteworthy differences. Compared with personnel files, former employees less frequently reported higher wages or career opportunity, personal factors, moving away, or retirement as reasons for leaving the university. On the other hand, they more often reported health, lack of promotion, or dissatisfaction with work schedule, supervision, or working conditions. Compared with personnel files, supervisors also more frequently reported health and dissatisfaction with working conditions as reasons for turnover. These results appear to reflect a bias in the files away from those reasons requiring an explanation on the form (e.g., health, dissatisfaction with supervision, and dissatisfaction with working conditions).

Agreement on at least one reason seemed moderate to good: 79.9% (Cohen's kappa [1960] = 76.0%) between personnel files and supervisors, 71.2% (kappa = 67.0%) between personnel files and former employees, 97.5% (kappa = 97.1%) between supervisors and former employees, and 67.6% (kappa = 66.7%) among all three. Agreement with personnel files was lower partly because they could provide only one reason. Supervisors reported an average of 1.40 reasons, and former employees reported an average of 1.67.

Agreement on all reasons given seemed quite low: 50.0% (kappa = 40.3%) between personnel files and supervisors, 36.9% (kappa = 27.6%) between personnel files and former employees, 46.6% (kappa = 39.2%) between supervisors and former employees, and 24.9% (kappa = 22.7%) among all three. Thus, even though any source usually contained at least one reason common to all three sources, any one source alone was greatly deficient in reflecting all the reasons given for turnover. The deficiency in the files is again partly because only one reason was recorded, but this does not explain the lack of agreement between former employees and supervisors.

Hypothesis 2. Scaled turnover measures were expected to show a certain pattern of intercorrelations (Table 1). Although some correlations were not large, the expected pattern did emerge (Table 2). Employee and supervisor measures correlated positively on voluntariness and avoidability, as predicted by Hypotheses 2a and 2b. Avoidability and functionality were positively correlated, as were functionality and productivity gain, as predicted by Hypothesis 2c. Voluntariness correlated negatively with avoidability, functionality, and productivity gain, as predicted by Hypothesis 2d. Relationships tended to replicate across sources (e.g., one measure from supervisors correlated with another from employees).

Table 3
Percentage Classifications of Reasons for Turnover Obtained From Personnel Files, Supervisors, and Former Employees

Type of turnover/reason	Personnel files	Supervisors	Employees
Voluntary			
Higher wages, career opportunity	30.7_a	28.3_{ab}	24.1_b
Attending school	3.8_a	3.4_a	3.0_a
Personal factors	11.3_a	9.0_a	3.0_b
Moved away	15.0_a	13.9_{ab}	10.1_b
Health	3.0_a	7.2_b	7.5_b
Lack of promotion	1.1_a	2.8_a	6.7_b
Dissatisfied with work schedule	0.4_a	1.3_{ab}	2.2_b
Transportation problems	0.0_a	0.8_a	0.4_a
Dissatisfied with supervision	0.4_a	0.3_a	9.5_b
Better benefits	0.0_a	0.0_a	0.2_a
Dissatisfied with working conditions	0.4_a	4.1_b	7.6_c
Other	4.1_a	3.6_a	2.0_a
Involuntary			
Reduction in work force or expiration of employment contract	3.4_a	4.4_a	4.8_a
Poor attendance	0.8_a	0.8_a	0.2_a
Inadequate performance	0.8_a	1.5_a	0.2_b
Tenure denied (faculty)	1.5_a	1.3_a	1.3_a
Other	0.4_a	0.5_a	0.0_a
Other			
Retirement	21.8_a	16.8_a	12.9_b
Other	1.1_a	0.0_b	0.0_b
Number of reasons	278	388	464

Note. Data from all sources were available for 278 cases. Health reasons could be voluntary or involuntary. Percentages with the same subscript letter in a row are *not* significantly different ($p < .05$, two-tailed).

Relationships with productivity gain were not consistent, and reversals occurred for pay saving. One partial explanation is that the measures were negatively related ($r = -.16$). Although unexpected, it makes sense that exchanges of employees resulting in productivity gain also resulted in higher salaries. This helps explain other findings, such as functionality relating to higher pay, because better employees may have required more pay.

Hypothesis 3. Turnover measures were expected to show a pattern of correlations with satisfaction measures (Table 1), and results were generally supportive (Table 2). Voluntariness correlated positively with employee satisfaction and was not correlated or correlated negatively with supervisor satisfaction, as predicted in Hypothesis 3a. Productivity gain correlated positively with supervisor process satisfaction; functionality and productivity gain correlated positively with supervisor outcome satisfaction; and avoidability and functionality correlated negatively with employee process satisfaction, as predicted in Hypothesis 3b. Several reversals also occurred. For example, to the extent the turnover was avoidable, supervisors were less satisfied with the turnover process, suggesting that turnover that is avoidable but not avoided can be interpersonally unpleasant for the supervisor. Also, correlations between utility measures and supervisor outcome satisfaction confirmed previous findings that supervisors were more satisfied with turnover that resulted in productivity gain even though pay might be slightly higher.

Employee and supervisor responses on process satisfaction did not converge ($r = .13$, *ns*), partly because employees and supervisors were asked somewhat different questions and perhaps partly because the process was not a shared experience. Likewise, supervisors' and former employees' satisfaction with their outcomes was not related ($r = -.08$, *ns*). Not surprising, both employees' and supervisors' satisfaction with the turnover process was related to their satisfaction with their outcomes ($r = .30$ and .18, respectively, $p < .05$).

Hypothesis 4. Scaled turnover measures were expected to relate to turnover reasons. Relationships were estimated by correlating scales with dummy variables reflecting the presence of reasons (see Table 4). Over half of the correlations with voluntariness were significant. Turnover due to higher wages and career opportunity, personal factors, and moving away was somewhat voluntary, and turnover due to dissatisfaction with supervision and reduction in force was involuntary. Relationships replicated for most sources (e.g., supervisors, former employees, personnel files) and across sources (e.g., a supervisor's reason correlated with an employee's scale).

Over half the correlations with avoidability were significant. Turnover due to higher wages and career opportunity, lack of promotion, dissatisfaction with schedule, supervision, or working conditions, and reduction in force was somewhat avoidable, whereas turnover due to personal factors, moving away, health, and retirement was unavoidable. Again, relationships replicated across sources.

The results illustrate how the measures differ. For example, turnover due to higher wages and career opportunity was viewed as voluntary and avoidable. Turnover due to personal reasons and moving away was viewed as voluntary but unavoidable, and turnover due to dissatisfaction with supervision and reduction in force was viewed as involuntary but avoidable.

Less than half the correlations with functionality were significant. Turnover due to health, dissatisfaction with supervision, and dissatisfaction with working conditions was considered somewhat functional, whereas turnover due to higher wages and career opportunity and moving away was considered dysfunctional. Functionality and avoidability are both organization-oriented measures and were positively correlated, but they had opposite relationships with some reasons for turnover. For example, higher wages and career opportunity was avoidable and dysfunctional, and dissatisfaction with working conditions was unavoidable and functional.

Only a few correlations with utility were significant. Turnover due to dissatisfaction with working conditions produced a small productivity gain. Pay saving related consistently only to retirement, but the relationship was quite large. Retirements produced an average pay savings of $5,143. Retirement is the only reason for turnover that produces a consistent pay saving (cf. Dalton & Tudor, 1982), and this saving may be one reason that organizations often encourage early retirement.

Multiple correlations and discriminant function analyses are also shown in Table 4. The multiple correlations were estimated by regressing each reason on the entire set of turnover scales (except productivity gain, which was excluded because of excessive missing data). As a set, the turnover scales explained a substantial proportion of variance in many reasons, especially higher wages and career opportunity, moving away, reduction in work force or termination of employment contract, and retirement.

A discriminant analysis was also conducted for each reason. The independent variables were the turnover scales (excluding productivity gain), and group membership was determined by whether a specific reason was given or not. These analyses provided information beyond the correlational results by showing the degree to which subjects could be correctly classified as providing a particular reason. They confirmed the value of the scales for identifying reasons. Even though prior probabilities of reasons were low, the scales as a set correctly identified the majority of subjects who gave a particular reason in most instances.

Supplementary Analyses

Two supplementary analyses were conducted. In the first, the satisfaction measures were correlated with the dummy variables reflecting the reasons (see Table 5). Employees were more satisfied with the process when they were leaving because they were moving away and less satisfied when they were leaving because they were dissatisfied with supervision or working conditions. Supervisors were less satisfied with the process when turnover was due to a reduction in the work force. Both employees and supervisors were more satisfied with the process when turnover was due to retirement.

Employees were more satisfied with the outcome when they were leaving for higher wages or career opportunities, because of lack of promotion or because they were dissatisfied with supervision or working conditions. Employees were less satisfied when they left for health reasons or when they retired. There were only a few significant correlations between reasons for turnover and supervisors' outcome satisfaction; for exam-

Table 4
Correlation and Discriminant Analyses Between Turnover Reasons and Turnover Scales

Reason	*n*	Voluntariness		Avoidability		Function-ality	Productivity gain	Pay saving	R^2 [a]	Discriminant analysis	
		S	E	S	E					%P[b]	%C[c]
Higher wages, career opportunity											
S	156	.22*	.16*	.35*	.28*	−.12*	−.07	.02	.40*	36	65*
E	94	.15*	.24*	.28*	.18*	−.11	−.07	−.09	.29*	33	70*
F	204	.15*	.18*	.30*	.24*	−.12*	−.08	.00	.30*	37	60*
Attending school											
S	24	.02	.06	−.02	−.04	−.03	−.07	−.06	.03	6	0
E	14	.02	.09	−.06	−.08	−.05	−.10	−.09	.04	5	0
F	19	−.01	.09	−.02	.00	.00	−.05	−.06	.05	5	0
Personal factors											
S	79	.07	.12*	−.12*	.04	.07	−.01	−.11	.06	15	4
E	36	.14*	.15*	−.17*	−.17*	.01	−.08	−.14*	.08*	14	0
F	76	.02	.14*	−.04	−.05	.12*	.06	.12*	.05	13	33*
Moved away											
S	119	.25*	.21*	−.31*	−.25*	−.21*	−.01	−.10	.20*	22	74*
E	55	.22*	.21*	−.28*	−.36*	−.12*	.10	.08	.18*	21	72*
F	109	.27*	.20*	−.28*	−.35*	−.22*	−.11	−.12*	.23*	17	77*
Health											
S	51	−.05	−.09	−.14*	−.11	.10*	−.02	−.02	.11*	7	17
E	45	−.09	.17*	−.09	−.11*	.13*	.05	−.02	.07*	8	54*
F	29	−.07	−.13*	−.09*	−.04	.06	−.04	−.02	.05	3	100*
Lack of promotion											
S	20	.07	.01	.26*	.09	−.02	−.02	−.02	.11*	6	60*
E	36	.12*	.00	.12*	.29*	−.08	−.12	−.06	.16*	14	54*
Dissatisfied with work schedule											
E	10	−.06	−.07	.08	.15*	.09	.09	−.08	.05	5	67*
Dissatisfied with supervision											
E	51	−.12*	−.17*	.22*	.39*	.20*	.06	−.04	.19*	18	45*
Dissatisfied with working conditions											
S	29	−.02	−.06	.15*	.17*	.10*	.19*	−.08	.05	7	38*
E	38	−.12*	−.02	.15*	.20*	.17*	.17	−.09	.05	10	0
Reduction in work force or expiration of employment contract											
S	43	−.30*	−.35*	.15*	.02	−.06	—	—	.43*	5	91*
E	25	−.35*	−.38*	.09	.13*	−.07	—	—	.27*	6	71*
F	60	−.32*	−.34*	.05	−.02	.03	—	—	.44*	4	100*
Retirement											
S	101	.09	.02	−.16*	−.11	.01	.02	.38*	.19*	17	50*
E	65	.05	.01	−.11	−.08	.05	.09	.51*	.26*	16	48*
F	113	.05	.01	−.09*	−.10	.00	.01	.40*	.27*	16	48*

Note. $N = 568$ reasons obtained from supervisors, 325 reasons obtained from former employees, and 733 reasons obtained from personnel files. Analyses were conducted only for reasons given 10 or more times. Utility measures were not applicable to reduction in force because employees were not replaced. S = supervisor; E = employee; and F = personnel file.

[a] Regression of reasons on scales ($df = 6/166$). Productivity gain was excluded because of missing data. [b] Percentage prior probability of reason. [c] Percentage of cases giving that reason that were classified correctly. Productivity gain was excluded because of missing data. Significance of chi-square test is indicated with asterisk.

* $p < .05$ (two-tailed).

ple, supervisors were more satisfied with outcomes when employees had left because they were dissatisfied with supervision. For most reasons, the satisfaction measures explained only a small proportion of variance and correctly classified only a small portion of subjects (R^2 and %C in Table 5, respectively).

The second analysis was an attempt to simplify the results for Hypotheses 2 through 4 by factor analyzing the turnover and satisfaction measures and then correlating the factor scores with the turnover reasons. Principal components analysis with varimax rotation was conducted on the raw scores, and the analysis was repeated on the correlations in Table 2 to reduce the effects of missing data. The results were highly similar in both analyses. Four factors emerged with eigenvalues greater than 1.00. They accounted for approximately 70% of total vari-

Table 5
Correlation and Discriminant Analyses Between Turnover Reasons and Satisfaction Scales

Reason	*n*	Process satisfaction		Outcome satisfaction			Discriminant analysis	
		S	E	S	E	R^2 [a]	%P [b]	%C [c]
Higher wages, career opportunity								
S	156	−.13*	.05	−.11*	.25	.09*	35	44*
E	94	−.11	.10	−.06	.28*	.08*	34	52*
F	204	−.10	.05	−.07	.28*	.09*	36	45*
Attending school								
S	24	.07	.04	−.05	.00	.04	5	22*
E	14	.06	.05	−.09	.05	.02	5	0
F	19	.09	.04	−.01	.04	.04	4	25
Personal factors								
S	79	.02	.02	.01	.04	.01	15	11*
E	36	−.12	.05	−.12	−.03	.03	14	0
F	76	−.03	.07	.04	.02	.02	13	9
Moved away								
S	119	.05	.06	−.04	−.05	.01	22	10
E	55	−.03	.11*	.00	−.05	.02	20	0
F	109	−.01	.12*	−.08	−.05	.03	18	9*
Health								
S	51	.06	−.03	.06	−.21*	.08*	5	0
E	28	.02	−.09	.14*	−.22*	.07*	6	18*
F	29	.02	−.13*	.03	−.14*	.04	2	0
Lack of promotion								
S	20	−.07	−.04	−.02	.17*	.04	5	0
E	36	−.04	−.11	−.10	.20*	.09*	13	8
Dissatisfied with work schedule								
E	10	−.13	−.08	−.02	−.02	.04	4	0
Dissatisfied with supervision								
E	51	−.05	−.30*	.20*	.14*	.13*	18	21
Dissatisfied with working conditions								
S	29	−.08	−.19*	.02	.15*	.08*	7	8
E	38	−.07	−.14*	.13	.12*	.05*	12	4
Reduction in work force or expiration of employment contract								
S	43	−.15*	−.03	−.07	.00	.04	2	33
E	25	−.05	−.09	−.01	−.06	.01	3	0
F	60	−.11*	−.10	.03	−.05	.10*	0	0
Retirement								
S	101	.20*	.17*	−.01	−.15*	.12*	17	39*
E	65	.26*	.19*	.01	−.13*	.10*	16	23*
F	113	.17*	.18*	−.03	−.15*	.10*	17	26*

Note. $N = 568$ reasons obtained from supervisors, 325 reasons obtained from former employees, and 733 reasons obtained from personnel files. Analyses were conducted only for reasons given 10 or more times. S = supervisor; E = employee; and F = personnel file.
[a] Regression of reasons on scales ($df = 4/180$). [b] Percentage prior probability of reason. [c] Percentage of cases giving that reason that were classified correctly. Significance of chi-square test ($df = 10$) is indicated with asterisk.
* $p < .05$ (two-tailed).

ance. Factors were interpreted by examining scales with the highest loadings and by examining correlations between factor scores and dummy variables representing turnover reasons.

Each of the four satisfaction measures loaded primarily on a different factor, which aids interpretation. Factor 1 represents employee process satisfaction. Employees were satisfied with the process when turnover was voluntary and unavoidable, for example, moving away and retirement. Employees were dissatisfied with the process when turnover was involuntary and avoidable, such as that caused by employee dissatisfaction with work schedules, supervision, or working conditions. Factor 4 represents supervisor process satisfaction. Supervisors were satisfied with the process when turnover saved pay. The best example is retirement. Factor 3 represents employee outcome satisfaction.

Employees were satisfied with outcomes when turnover was avoidable, that is, when they left to obtain higher wages or career opportunities or because of a lack of promotion or dissatisfaction with supervision or working conditions. Employees were dissatisfied with outcomes when turnover was unavoidable, for example, when turnover was the result of moving away, poor health, or retirement. Finally, Factor 2 represents supervisor outcome satisfaction. Supervisors were satisfied with outcomes when turnover was involuntary, functional, and productive (e.g., retirement). Supervisors were dissatisfied with outcomes when turnover was voluntary, dysfunctional, and counterproductive, for example, when it was due to personal factors, lack of promotion, or dissatisfaction with work schedule or working conditions.

Discussion

In this study, measures reflecting the different aspects of turnover as discussed in the literature were developed. Construct definitions were clarified (Schwab, 1980) by identifying and describing alternative measures. Multiple measures were collected, and multiple methods were used to compare them (Campbell & Fiske, 1959). In the following sections, recommendations are made for measurement of turnover in future research. Recommendations are based on the literature review, empirical findings, and qualitative evaluation of the measures. First, however, limitations of the study are noted.

Limitations

First, the response rate for former employees was 61.5%. Although this is a high rate for mail surveys (Warwick & Lininger, 1975), especially as many employees had moved, it is still suboptimal. Nonrespondents did not differ from respondents on demographics and most reasons for turnover, but it is unknown if they differed on the relationships studied. Second, ex post facto research designs create concerns about retrospective biases that may distort perceptions (Muchinsky & Tuttle, 1979). Relatedly, memory decay may have occurred because data were collected 3 to 15 months after turnover. Third, utility estimates were limited because not all employees who left were replaced. In addition, the utility estimates were greatly simplified (cf. Boudreau & Berger, 1985a). Fourth, the satisfaction measures have unknown meaning and thus may be of limited use in evaluating the meaning of other measures. Fifth, the low frequencies of some turnover reasons made relationships difficult to detect.

Finally, other consequences were unmeasured. Other organizational costs of turnover include severance and training expenses (Jeswald, 1974), operational disruption (Staw, 1980), the creation of multiple internal job movements (Stewman & Konda, 1983), and a negative effect on attitudes and turnover propensity of co-workers (Krackhardt & Porter, 1985, 1986). Other benefits include staffing flexibility and mobility for other employees (Muchinsky & Morrow, 1980), an influx of new talent (Albrook, 1968; Grusky, 1960), and recovered pensions (Dalton & Tudor, 1982). In addition, the outcome satisfaction measures only imperfectly addressed consequences for individuals. Other consequences include reduction of stress (Newman & Beehr, 1979), better person–job congruence (Bray, Campbell, & Grant, 1974), personal adjustment problems (Cherry, 1976), and attitude and behavior changes (Steers & Mowday, 1981).

Recommendations for Measurement in Future Research

1. The accuracy and completeness of organizational turnover records may be questionable. In this study, there was only a 68% chance that personnel files obtained at the time of turnover would contain a reason common to the reasons given by former employees and supervisors several months later. Because of the practice of recording only one reason in the official personnel files, only 25% of all reasons given were contained in the files.

There may be many causes for the differences between reasons obtained from personnel files, former employees, and supervisors. Employees and supervisors may have different perspectives, or there may be a lack of communication between a departing employee and his or her supervisor. Differences may arise from an employee's desire to maintain a positive relationship with a supervisor in order to get good references or from an organization's desire to maintain good public relations. Other causes may relate to the record keeping process. Recording only a single reason in official files results in deficient information; requiring explanations for sensitive reasons may suppress the reporting of those reasons; and the use of face-saving reasons may reduce the accuracy of personnel records. Whether the additional reasons were present at the time of turnover cannot be determined from this study, however.

It is recommended that information be collected from former employees or supervisors as well as from personnel files, especially if the files contain only one reason. Supervisors are an appealing source because they are still available in the organization and because providing such information is related to their job responsibilities (thus promising a high response rate).

2. The data summarized in this paper support recommendations for many changes in turnover record-keeping in organizations. As noted, organizations ought to record multiple reasons for turnover (e.g., up to three). Bias might be somewhat reduced by requiring input from former employees or the involvement of human resource representatives. Some reasons are not well defined, and so the categories on the recording forms should be revised or the instructions clarified. For example, the category *personal reasons* was used frequently for instances when a worker decided to stay home with a new baby. This kind of turnover is different from situations in which an employee will not specify a reason, and it may become more important to record this reason separately as more women enter the work force. Other categories tended to be used together and should be combined (e.g., career opportunity and higher wages), and others were never used and should be eliminated (e.g., better benefits). Some reasons should have their own categories (e.g., dissatisfied with type of work, quit because of work pressure). Other reasons may fit in multiple categories, and rules for categorizing such reasons should be clarified (e.g., is pregnancy a health reason or a personal reason; should problems with coworkers be classified as a personal reason or as dissatisfaction with working conditions). Finally, the variety of reasons for turnover may change over time (e.g., reasons for retirement may become more differentiated as the work force ages), and so orga-

nizations should periodically review their record-keeping processes.

3. If a researcher wants to understand individual motivated choice behavior, then the notion of voluntariness is probably inescapable. Motivational models can only be tested if the turnover behavior involves choice. Poor criterion measures could invalidate even models that were correct.

Although many organizations classify turnover as voluntary versus involuntary (or employee- versus organization-initiated), this study raises concerns with the meaning of such measures. Some reasons are not clearly voluntary or involuntary (e.g., health problems, retirement, pregnancy, and mutual separation). Measures of voluntariness collected from former employees and supervisors only imperfectly categorized the reasons, and employees' and supervisors' opinions on voluntariness were related but not substitutable. This study also yielded other information on the voluntariness measure. Most notably, voluntariness was negatively related to measures of organizational consequences, and it was positively related to employee satisfaction with the turnover process and with outcomes.

It is recommended at a minimum that, in studies of individual motivated choice behavior, great care is taken to ensure that the turnover predicted is voluntary. The reasons given should be consistent with the model being tested. Reasons classified as voluntary versus involuntary should be reported so that differences between models and between researchers can be identified. Finally, information on voluntariness is more likely to be complete if it is collected from former employees and supervisors as well as from personnel files.

4. Voluntariness may be too gross a classification system for deriving criteria against which to validate motivational models. Such heterogeneous criteria may explain why models have a limited ability to predict turnover (e.g., maximum of 20% variance explained according to Mobley et al., 1979). In future research, voluntary turnover should be divided into more homogeneous subgroups of reasons for turnover that can be predicted with the same variables. For example, job satisfaction may predict turnover resulting from a desire for higher wages, a lack of promotion, or dissatisfaction with supervision or working conditions. Biographical data (e.g., age, sex) may better predict turnover that occurs because an employee moves away, decides to stay home to raise children, or decides to go to school. As was done in the area of human performance (Fleishman & Quaintance, 1984), development of a taxonomy may clarify the turnover criterion.

5. Avoidability is the least complex measure for understanding the organizational consequences of turnover. Even though it would be deficient as the sole measure, its use is recommended for several reasons. First, avoidability is the only consequence measure that showed substantial relationships with reasons, and thus it can be estimated from personnel files (whose limitations have already been discussed). Second, avoidability was related to other turnover measures in predictable ways, but it was not redundant. For example, avoidability was related negatively to voluntariness, but some reasons were both voluntary and avoidable. Likewise, avoidability was related positively to functionality, but some reasons were both avoidable and dysfunctional or vice versa. Third, even though employee and supervisor opinions on avoidability were moderately correlated, employees felt that turnover was somewhat more avoidable. This is important because avoidability was related to employee dissatisfaction with the turnover process, suggesting the importance of avoidability perceptions for relations with former employees. Finally, avoidability focuses attention on reasons for turnover that an organization can control and, thus, can make decisions about.

6. Functionality is a more complex measure of organizational consequences because it considers the organization's evaluation of former employees. This study provides insight into the meaning of the measure. Functionality was most strongly related to productivity gain, as might be expected given that both measures assessed the performance of former employees. Functionality's relationship with pay saving suggests that supervisors may be willing to pay slightly larger salaries to higher performing employees or, alternatively, that lower performing employees were given smaller pay increases as an encouragement to leave. Functionality was also highly related to supervisors' satisfaction with outcomes. Finally, the modest number of relationships between functionality and reasons for turnover suggests that functionality may not be a good means of classifying reasons.

It is recommended that functionality be used to study organizational consequences because it considers factors that are highly relevant and visible to the supervisor (e.g., job performance and ease of replacement). The three-item functionality measure (Dalton et al., 1981) is easy to use and has good internal consistency, but agreement among alternative sources (e.g., different supervisors) should be examined in future studies. Dalton et al.'s measure has the disadvantage of not being able to use data obtainable from personnel files, so researchers must go to supervisors. However, objective measures of performance can be used to form functionality indices (e.g., Hollenbeck & Williams [1986] used sales volume).

7. Utility is the most complex measure of turnover consequences, and in this study, it was statistically independent from other turnover measures. The largest relationships indicated that productivity gain and functionality are similar measures and that productivity gain is very important to supervisors' outcome satisfaction. Given that the utility measures differed from the other measures by considering both former and replacement employees, and given that the two utility measures were somewhat negatively related to each other (e.g., turnover resulting in more productive employees often increased salary costs), the independence of the utility measures from the other turnover measures was not unexpected. Because the utility measures were focused on financial consequences rather than why turnover occurred, there were few relationships between the utility measures and reasons for turnover.

Utility measures are recommended for future research because they go beyond other measures by considering replacement employees and costs. Although costs are available from organization records, productivity must usually be estimated by supervisors. A problem may be the large amount of missing data resulting from the need to replace employees before utility can be judged and from the complexity of productivity estimates. The latter was illustrated by the fact that only 52.1% of supervisors who had a replacement employee completed all five productivity questions. Future studies should examine methods

of reducing missing data (e.g., administering questions in an interview or group setting where explanation can be given), agreement among alternative sources (e.g., different supervisors), and a full utility model (e.g., including transaction costs, dollar estimates of productivity, etc.).

8. This study demonstrates on both logical and statistical (Cohen, 1984) grounds that turnover measures should be conceptualized and operationalized as continua rather than dichotomies. Continuous measures developed in this study showed high internal consistency and moderate to high agreement between supervisors and employees. Thus, continuous measures are recommended for future research.

9. When referring to the unfavorableness of turnover, one must be clear about definitions. If voluntary turnover is viewed as unfavorable, one will conclude that the amount of unfavorable turnover is high. The voluntariness of the reasons in this study ranged from 70% to 75%, and over 80% of the ratings were above the midpoints of the voluntariness scales. If unavoidable turnover is considered unfavorable, it will depend on who one asks (e.g., supervisors indicated over 75%, but employees indicated nearer to 50%). Dysfunctional judgments depend on what one considers. Over 90% of former employees were rated by their supervisors as at least adequate performers, and 70% would be rehired, but only 50% were considered hard to replace. Utility considerations indicated the least unfavorable turnover, with only 25% to 30% showing negative productivity or payroll costs (or 35% to 50% if zero utility is considered unfavorable). Clearly, the meaning and measurement of turnover are closely related.

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