Using Job Involvement and Organizational Commitment Interactively to Predict Turnover

Gary Blau
Temple University
Kimberly Boal
University of Nevada at Reno

Recently Blau and Boal (1987) have proposed a conceptual model describing how an interaction of job involvement and organizational commitment can be useful for predicting employee turnover and absenteeism. This study partially tested their conceptual model. The study sample consisted of 129 field office employees from an insurance company. The results showed that an interaction of job involvement and organizational commitment accounted for significant turnover variance beyond three relevant demographic variables (sex, marital status, tenure), job withdrawal cognitions, and the job involvement and organizational commitment main effects. Results and limitations of the study are discussed, including implications for managers.

Employee turnover is an important organizational outcome that behavioral scientists have been interested in for a number of years. The costs of turnover to organizations are well documented (e.g., Wanous, 1980), and such costs are one reason why much effort has gone into understanding the causes or antecedents of turnover. Work-related attitudes, especially satisfaction facets, have been a common focus in turnover research (e.g., Mobley, Griffeth, Hand, & Meglino, 1979; Porter & Steers, 1973). The inability of satisfaction facets alone to account for a high percentage (more than 15%) of variance in turnover has led to other approaches. These approaches include using withdrawal cognitions to predict turnover (Mobley, 1977), or focusing on other work-related attitudes, such as job involvement (Rabinowitz & Hall, 1977) and organizational commitment (Mowday, Porter, & Steers, 1982) as independent predictors of turnover. Although such approaches have helped account for additional turnover variance, much turnover behavior still remains unexplained.

Recently, Blau and Boal (1987) have proposed a conceptual model describing how an interaction of job involvement and organizational commitment can be

useful for predicting employee turnover and absenteeism. In this conceptual model, job involvement is defined as the extent to which an individual identifies psychologically with his/her job (Blau, 1985), and organizational commitment is defined as the extent to which an employee identifies with the nature and goals of a particular organization and wishes to maintain membership in that organization (Mowday, et al., 1982). Using high and low combinations of job involvement and organizational commitment, Blau and Boal (1987) describe four different cells to classify employees by: (a) high job involvement - high organizational commitment; (b) high job involvement - low organizational commitment; (c) low job involvement - high organizational commitment; and (d) low job involvement - low organizational commitment. Employees in the first cell are labeled "institutionalized stars," in the second cell "lone wolves," in the third cell "corporate citizens," and in the fourth cell "apathetic employees."

With their low levels of job involvement and organizational commitment, apathetic employees have the lowest level of work attraction. Thus, turnover frequency is expected to be the highest for apathetic employees in the Blau and Boal (1987) model. Conversely, with their high levels of job involvement and organizational commitment, turnover frequency should be the lowest among institutionalized stars. Between the two other types of employees, lone wolves and corporate citizens, turnover frequency is expected to be higher among lone wolves. Although work is important to them, lone wolves do not identify with the organization or its goals. Therefore, such individuals would leave the organization more readily if better task-related opportunities arose elsewhere (Blau & Boal, 1987). Corporate citizens more strongly identify with the organization, even if their work is not personally important to them.

It is important to recognize that the Blau and Boal (1987) model is designed to focus on external as opposed to internal turnover. With external turnover, employees leave their job *and* organization; with internal turnover employees only leave their job but stay within the organization. Intraorganizational transfer was theoretically recognized 30 years ago by March and Simon (1958) as a potential alternative to the individual's leaving the organization. Recently, Dalton and Todor (1987) found strong support for the attenuating impact of internal mobility on external turnover. However, in order to apply the Blau and Boal (1987) model, it is important to focus on samples (and organizations) where internal employee turnover is less of a possibility. In addition, the model is designed to help predict voluntary as opposed to involuntary employee turnover (e.g., due to dismissal). Voluntary turnover should be more heavily influenced by motivational factors (such as work attitudes), whereas involuntary turnover is more influenced by ability and performance-related factors (Cotton & Tuttle, 1986). Job involvement and organizational commitment would only be expected to interact in predicting external voluntary turnover in the Blau and Boal (1987) model.

Depending on which cell employees fall into, Blau and Boal (1987) argue that in deciding to withdraw from work, employees in different cells should be more sensitive to particular satisfaction facets. For example, apathetic employees are particularly sensitive to reward-related issues. Because apathetic employees are not linked to work by either positive feelings about their job or organization, their

attachment and compliance with organizational expectations is based primarily on calculative judgments (Etzioni, 1961). Lone wolves, however, like Gouldner's (1958) cosmopolitans are more sensitive about the nature of their work. Thus, work facet dissatisfaction should be a key reason in the turnover of lone wolves.

Limited empirical support for this model was found in a study focusing on absenteeism by Blau (1986). While breaking down a significant job involvement by organizational commitment interaction, Blau (1986) found that nurses with higher levels of job involvement and organizational commitment had significantly less unexcused absences than nurses with lower levels of job involvement and organizational commitment. However, as Porter and Steers (1973) noted, absenteeism differs from turnover in three ways: (a) the negative consequences associated with absenteeism for the employee are usually less than those associated with turnover; (b) absenteeism is more likely to be a spontaneous and relatively easy decision, whereas turnover is typically more carefully considered over time; and (c) absenteeism can be a substitute for turnover, especially if the labor market situation is unfavorable for the individual. The purpose of this study is to further test the Blau and Boal (1987) model by examining whether there is a significant interactive effect of job involvement and organizational commitment in the predicted direction on turnover.

Research (e.g., Cotton & Tuttle, 1986; Mobley, Griffeth, Hand, & Meglino, 1979) suggests that job-related withdrawal cognitions are important to consider in the turnover process. Turnover models (e.g., Mobley, 1977; Steers & Mowday, 1981) generally predict that job attitudes, particularly satisfaction, are linked to employee turnover through intermediate withdrawal cognitions. There is strong empirical support (e.g., Arnold & Feldman, 1982; Miller, Katerberg, & Hulin, 1979; Mobley, Horner, & Hollingsworth, 1978) showing that job withdrawal cognitions mediate the relationship between job satisfaction and turnover. However, research (e.g., Mowday, Koberg, & McArthur, 1984) is not as conclusive for showing that job withdrawal cognitions mediate the relationship between other work attitudes (such as organizational commitment and job involvement) and turnover. In testing the Blau and Boal (1987) model, if a significant job involvement by organizational commitment interaction on employee turnover is found, it is important to determine whether this interaction's effect on turnover is mediated by job withdrawal cognitions. In discussing their model, Blau and Boal (1987) implied that the hypothesized interactive effect of job involvement and organizational commitment on turnover was not mediated by job withdrawal cognitions.

Method

Subjects and Procedure

After gaining upper-management approval, two surveys were constructed and administered to insurance personnel working at various field offices around the United States. However, the insurance company is headquartered (has its home office) in a large eastern city. Because study subjects were located in field offices around the U.S., the Home Office Human Resource Department coordinated the administration of participant surveys. Subjects were told that the purpose of the surveys was to explore the work attitudes and perceptions of field office employ-

ees. The insurance company was concerned about the high external turnover rate of field office employees with less than 5 years of experience. Because there were no opportunities to change jobs within the insurance company for their first 5 years of employment, field office employees were leaving the organization in the process of changing jobs (i.e., external turnover). Conversations with Human Resource Department personnel indicated that before being eligible for promotion or transfer, field office employees were expected to "pay their dues" at their initial job assignment. This study was designed to focus on field office employees with less than 5 years of experience in the organization.[1] So that their answers could be matched over time, study participants were asked to give their name and field office location. Subjects were assured that their participation was voluntary and that their individual survey responses were completely confidential.

Through the Home Office Human Resource Department, a national target sample of 210 college graduate field office employees with generally 1 to 4 years of experience across five insurance divisions (claims, field operations, loss control, agency, and international) was identified. Of the 210 surveys sent out, 129 (61%) were voluntarily completed and returned. Surveys were returned to the Home Office Human Resource Department. These Time 1 (T_1) surveys asked participants for demographic information, plus feelings about their job and organization. Six months later at Time 2 (T_2), a second, shorter survey was given to the 129 T_1 survey respondents. Due to the more sensitive information being asked, these surveys were mailed directly back to the authors. This second survey asked subjects for similar demographic information as the first survey, plus their thoughts about leaving their jobs. Company Human Resource personnel felt that 6 months was an adequate time period to examine if work attitudes would affect intentions to leave, and the link between such intentions and turnover. Of the 129 T_1 respondents, 106 (82%) voluntarily completed and returned their T_2 surveys. Follow-up on the 23 T_2 non-respondents through the Home Office Human Resource Department indicated that 11 had voluntarily left the insurance company between T_1 and T_2, and the remaining 12 chose not to respond to the T_2 survey. A demographic and geographical breakdown of the longitudinally-tracked sample of participants showed that: (a) 53% were female, (b) 82% were not married, (c) average company tenure was 2½ years, and (d) 9% were from the Western region, 33% were from the Northeast region, 20% were from the Southern region, 22% were from the Mid-Atlantic region, and 16% were from the Central region. Discussions with Home Office Human Resource personnel indicated that the sample of 129 participants was demographically and geographically representative of the original sample of 210 employees.

Measures

Demographic variables of sex, marital status, and tenure were measured using

---

[1] By only focusing upon subjects with less than 5 years of experience, the authors were able to control for internal turnover. The *only* turnover option available to subjects was to leave the insurance company (i.e., external turnover). After a 5-year period, intraorganizational transfer opportunities became available to subjects who had "proven" themselves. Thus for employees with more than 5 years of experience, the proposed job involvement by organizational commitment interaction for predicting turnover would make less sense because employees could leave their jobs without leaving the organization.

single items. Females were coded 1, and males were coded 2. Participants were asked if they were currently married (1 = Yes, 2 = No). For tenure, participants were asked how long they worked for the insurance company, where 1 = less than one year; 2 = 1 to 2 years; 3 = 2 to 2½ years; 4 = 2½ to 3 years; 5 = 3 to 3½ years; 6 = 3½ to 4 years; and 7 = 4 to 5 years. No study participants had more than 5 years with the company because the organization was only interested in studying field office employees with less than 5 years of experience.

Job involvement was measured using a six-item scale based upon Kanungo's (1982) study. Job involvement is defined as the extent to which an individual identifies psychologically with his/her job. Many of Kanungo's (1982) items (e.g., "I live, eat, and breathe my job"; "the most important things that happen to me involve my job") are based upon Lodahl and Kejner's (1965) original job involvement measure. Blau (1985) found that the Kanungo (1982) measure operationalized job involvement more clearly than the Lodahl and Kejner (1965) measure, which was confounded with intrinsic motivation. Answers to items were recorded on a 5-point scale (1 = Strongly disagree, 5 = Strongly agree).

Organizational commitment was measured using the 9-item short-form version of Porter, Crampon & Smith's (1976) 15-item measure. Organizational commitment is defined as when the individual (a) identifies with a particular organization and its goals and (b) wishes to maintain membership in the organization to facilitate those goals. The short-form was used to reduce the length of the first survey and because the short-form drops items loaded with withdrawal intentions. A sample item is "I really care about the fate of this organization." Answers to items were recorded on a 5-point scale (1 = Strongly disagree, 5 = Strongly agree). Evidence for the construct validity of this scale is provided by Mowday, Steers, and Porter (1979).

Job withdrawal cognitions were measured using three items theorized by Mobley (1977) and found (e.g., Miller, Katerberg, & Hulin, 1979) to be important precursors to turnover: thinking of quitting, intention to search, and intention to quit. Responses to each item were recorded on a 5-point scale (1 = Very unlikely; 5 = Very likely). Consistent with other researchers (e.g., Michaels & Spector, 1982), a three-item job withdrawal cognitions scale was formed by linearly summing the responses to each item. Only 106 out of the 129 study participants filled out the job withdrawal cognitions measure.

Turnover was measured by recording the number of study participants who left the insurance company for voluntary reasons (i.e., excluding dismissal) within 22 months of the first survey administration. The 22-month time period was necessary to get an adequate sub-sample of leavers. A total of 49 subjects left the organization within the 22-month time period. Stayers (n = 80) were coded 1 and leavers (n = 49) were coded 2. To further identify reasons for leaving, the company made available to the authors leavers' home phone numbers so that post-exit phone interviews could be attempted. Contacted leavers were asked why they left and to rank order the following dissatisfactions in terms of the role each played in the individual's turnover decision: (a) the work itself, (b) interpersonal (i.e. supervisor and/or co-worker) concerns, and (c) reward-related (i.e. pay and/or promotion) issues. This was done to test Blau and Boal's (1987) contention

that withdrawing individuals would be more sensitive to certain satisfaction facets, depending upon their levels of organizational commitment and job involvement.

Data Analysis

In order to test the Blau and Boal (1987) model, which specifies four discrete job involvement and organizational commitment conditions, an analysis of variance (ANOVA) framework was used. High and low job involvement and organizational commitment categories were created using a median split on the job involvement and organizational commitment variables. Analysis of covariance (ANCOVA) was done to control for study-relevant variables (covariates) that could affect turnover. Earlier research (e.g., Cotton & Tuttle, 1986; Porter & Steers, 1973) has shown that tenure, marital status, sex, and job withdrawal cognitions can influence turnover; these variables, as a consequence, were controlled for. Newer employees, who have not invested as much time in their jobs, may be more likely to leave if they are not happy. Married individuals could be less mobile because of dual career or family issues. In their meta-analysis of turnover predictors, Cotton and Tuttle (1986) found evidence that women are more likely to leave than men. As previously discussed, if a significant interactive effect of job involvement and organizational commitment on turnover was found, job withdrawal cognitions were controlled for to see if the interaction's effect was dependent on job withdrawal cognitions.[2]

Following classic experimental design procedure (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975), in the ANCOVA the effect of covariates on the dependent variable is assessed first, followed by main effects, and then the interaction. The non-orthogonal design of the study, due to unequal cell sizes, necessitated using the unweighted mean squares solution approach (Applebaum & Cramer, 1974; Overall & Spiegel, 1969) to the ANCOVA. According to the unweighted mean squares solution, cell means are equally weighted, and an effect is tested for significance after all other effects have been partialed out. Post hoc tests were conducted between specific group means with FSD2, a variant of the Fisher significance difference test (Carmer & Swanson, 1973). This post hoc procedure was chosen because it offers adequate protection against Type 1 errors and is more sensitive to real differences than other better known post hoc tests (e.g., Student-Newman-Keuls, Scheffe's, Tukey's). By means of the test for regression parallelism (Hull & Nie, 1981), the assumption for homogeneity of within-group regression lines was verified. Breaking down a significant interaction to test for differences between cell means requires a check for homogeneity of variance between the groups being tested. For all of the study group comparisons, the homogeneity of variance assumption was satisfied (Nie et al., 1975).

---

[2]The Blau and Boal (1987) model specifies four discrete conditions, which logically suggests using an ANOVA framework. However, it is important to acknowledge that statistical power is lost by dichotomizing continuous variables. With continuous variables, regression analysis is more appropriate. Hierarchical regression analyses were also carried out, controlling for sex, marital status, tenure, job withdrawal cognitions, and the job involvement and organizational commitment main effects, prior to testing the job involvement by organizational commitment interaction. The results found with hierarchical regression analyses were consistent with those reported using ANCOVA and are available by writing to the authors.

Results

Table 1 presents the means, standard deviations, score ranges, reliabilities, and intercorrelations among the study variables. The descriptive results indicate that restriction of range is not a problem. The internal consistency reliability estimates for job involvement, organizational commitment, and job withdrawal cognitions are fairly strong (Nunnally, 1978). The pattern of correlations between work-related attitudes and outcomes shows that job involvement and organizational commitment are significantly negatively related to job withdrawal cognitions and turnover. These results support previous research (e.g., Beehr & Gupta, 1978; Mowday et al., 1979). The significant correlations of job involvement and organizational commitment to job withdrawal cognitions are not simply due to common method variance. As Bateman and Strasser (1984) noted, time ordering of variables in longitudinal research reduces some of the method bias inherent in self-report cross-sectional research.

With the correlation between independent variables, job involvement and organizational commitment are significantly positively correlated. Due to their focus on different work referents, job versus organization, Morrow (1983) has suggested that job involvement and organizational commitment be regarded as independent constructs, allowing for moderate correlations (up to .30) between measures of job involvement and organizational commitment due to common method variance. Using measures similar to this study, Blau (1987) has found job involvement and organizational commitment items to load on separate factors, despite correlations of .33, .35, and .33 over three time periods between the job involvement and organizational commitment scales. Similarly, in this study, factor analytic results showed that the job involvement and organizational commitment items loaded on separate factors, despite a correlation of .31 between scales. Additional confirmatory evidence for job involvement and organizational commitment being empirically distinct concepts comes from a recent study by Brooke, Russell, and Price (1988). However, finding that job involvement and organizational commitment are significantly positively correlated to each other, as well as significantly negatively correlated to turnover, is important to application of the Blau and Boal (1987) model. This pattern of correlations shows that a mutually predicted turnover variable (i.e., external turnover) is being used.

The main research question for this study was whether job involvement and organizational commitment significantly interact to further predict turnover beyond the covariates of sex, marital status, tenure, and job withdrawal cognitions, and the job involvement and organizational commitment main effects. An analysis of covariance (ANCOVA) with the full sample ($N = 129$) is shown in Table 2. As the results in Table 2 show, the job involvement by organizational commitment interaction significantly accounts for additional turnover variance beyond the covariates of sex, marital status, and tenure, and the job involvement and organizational commitment main effects.

In order to test whether job withdrawal cognitions mediate this interactive effect on turnover, a second ANCOVA was done. The results are shown in Table 3. Only 106 of the 129 original Time 1 study participants filled out the Time 2 job withdrawal cognitions measure, so the N (number of subjects) for Table 3 is

Table 1
Descriptive Statistics, Reliabilities, and Intercorrelations Among Study Variables

Variable	M	SD	Score Range	1	2	3	4	5	6	7
1. Sex (T$_1$)[a,b]	1.5	.5	1-2	(NA)						
2. Marital Status (T$_1$)[a]	1.8	.4	1-2	-.30**	(NA)					
3. Tenure (T$_1$)[a]	2.2	1.7	1-7	.07	-.17*	(NA)				
4. Job Involvement (T$_1$)	18.8	4.3	8-26	-.05	.02	-.09	(.77)[c]			
5. Organizational Commitment (T$_1$)	33.3	6.0	17-44	-.06	-.07	-.17*	.31**	(.84)		
6. Job Withdrawal Cognitions (T$_2$)	7.7	2.8	3-14	.04	-.08	.16	-.24*	-.33**	(.90)	
7. Turnover	1.4	.4	1-2	-.02	.10	.14	-.19*	-.28**	.49**	(NA)

[a]Sex, Marital Status, Tenure, and Turnover are category-defined variables. [b]T$_1$ = Time 1 (N = 129); T$_2$ = Time 2 (N = 106). [c]Internal consistency estimates in parentheses.

*p < .05. **p < .01.

Table 2
ANCOVA Results For Predicting Turnover

Sources of Variation	df	F	Significance
Covariates			
Sex	1	.22	.643
Marital Status	1	.98	.313
Tenure	1	1.46	.160
Main Effects			
Job Involvement (JI)	1	3.92	.047
Organizational Commitment (OC)	1	5.26	.026
Interaction			
JI * OC	1	4.42	.039
Error	117		

Table 3
ANCOVA Results For Predicting Turnover

Sources of Variation	df	F	Significance
Covariates			
Sex	1	.19	.662
Marital Status	1	.42	.543
Tenure	1	1.03	.398
Job Withdrawal Cognitions	1	6.57	.009
Main Effects			
Job Involvement (JI)	1	3.48	.053
Organizational Commitment (OC)	1	4.15	.042
Interaction			
JI * OC	1	3.81	.046
Error	92		

smaller. As Table 3 shows, the job involvement by organizational commitment interaction remained significant. This indicates that job withdrawal cognitions do not mediate the hypothesized interactive job involvement by organizational commitment effect on turnover. The results in Tables 2 and 3 provide initial support for the Blau and Boal (1987) model.

To further test the conceptual model, turnover frequencies within the four proposed cells were examined. The smaller sample ($N = 106$) was used so that the job withdrawal cognitions variable could be included. These results are shown in Table 4. As can be seen, the turnover mean for apathetic employees (low ji/low oc) was significantly higher than for individuals in the other three cells. In addition, when the larger sample ($N = 129$) was used, the turnover mean between lone wolves (high ji/low oc) and institutionalized stars (high ji/high oc) was found to be significantly different (1.4 versus 1.1). To summarize these results in terms of the Blau and Boal (1987) model, the results show that apathetic employees have significantly higher external voluntary turnover than institutionalized stars, corporate citizens, and lone wolves. In addition, lone wolves have significantly higher external voluntary turnover than institutionalized stars.

As mentioned earlier, the Blau and Boal (1987) model argues that in deciding to withdraw from work, employees in different cells should be more sensitive to particular satisfaction facets. Concerning post-exit phone interview results, the authors were able to contact and get participation from 24 of the 49 leavers

Table 4
Cell Breakdown of Job Involvement By Organizational Commitment Interaction Showing
Means, Standard Deviations, and Cell Sizes

| | | Job Involvement | |
		High	Low
Organizational Commitment			
	High	$M = 1.1^a$	$M = 1.2^a$
		$SD = .2$	$SD = .2$
		$(N = 27)$	$(N = 24)$
	Low	$M = 1.3^a$	$M = 1.9^b$
		$SD = .3$	$SD = .4$
		$(N = 29)$	$(N = 26)$

Note. $N = 106$. Significant difference ($p < .05$) between cells with different mean superscripts.

(49%). The other 25 leavers either could not be tracked down ($N = 11$), or were unwilling to participate ($N = 14$). Of the 24 leavers who responded, 18 leavers were classified as apathetic employees (low ji/low oc), whereas 6 leavers were lone wolves (high ji/low oc). The top-ranked reason for leaving given by the apathetic employees was reward-related dissatisfaction, but for lone wolves it was work dissatisfaction. These interview results are in the expected direction according to the conceptual model.

Discussion

The results of this study provided partial support of the Blau and Boal (1987) conceptual model. This model is designed to help predict external, voluntary employee turnover. Job involvement and organizational commitment did significantly interact to further predict turnover beyond employee sex, marital status, tenure, and job withdrawal cognitions, and the job involvement and organizational commitment main effects. Predicted significant differences in turnover frequency were found between apathetic employees versus institutionalized stars, corporate citizens, and lone wolves, and between lone wolves versus institutionalized stars. Furthermore, the post-exit interview data was supportive because leavers originating from certain model cells were more sensitive to particular satisfaction facets.

From a practical standpoint, the results of the study suggest a simple, but useful framework for managers to keep in mind when managing their subordinates. As they develop different quality dyadic relationships with their subordinates (Dansereau, Graen, & Haga, 1975), managers should notice which subordinates have higher versus lower levels of job involvement and higher versus lower levels of organizational commitment. Employees with lower levels of job involvement *and* organizational commitment are in the "highest risk" category for subsequent turnover, with employees having high job involvement and low organizational commitment being next in terms of turnover risk. Employees with at least higher levels of organizational commitment are less likely to voluntarily leave. This suggests that job involvement and organizational commitment are not equally important in preventing voluntary, external turnover. Higher employee organizational commitment offsets lower employee job involvement in terms of re-

ducing turnover better than higher employee job involvement offsets lower employee organizational commitment. Such a result is consistent with general research that shows organizational commitment to be a more powerful predictor of turnover than job involvement (Boal & Cidambi, 1984).

Related research suggests that job involvement is a more stable work attitude than organizational commitment in the sense that job involvement may be more difficult to change. For example, several behavioral scientists (e.g., Lodahl, 1964; Siegel, 1969) note that individual differences in job involvement can be traced back to orientations toward work learned *early* in the person's socialization process (e.g., early school experiences, work attitudes of family members). Therefore managers with limited resources, desiring to reduce voluntary, external employee turnover, should focus on enhancing their subordinates' organizational commitment. Approaches for managers to take for increasing subordinate organizational commitment include building stronger co-worker relationships, better supervision, and improved reward systems (Mowday et al., 1982).

It is important to point out that this study provides only a limited test of the Blau and Boal (1987) model. According to the full model, work effort factors and satisfaction facets are suggested as variables mediating the process through which the interaction of job involvement and organizational commitment affects employee turnover and absenteeism. Absenteeism and work effort factors were not tested in the current study, and the evidence for satisfaction facets is retrospective and thus subject to potential individual biases such as memory distortion. In addition, the usefulness of the model for predicting other types of turnover should be explored. For example, using a sample of retail salespeople, Hollenbeck and Williams (1986) found that job involvement and organizational commitment, used as separate predictors, were not as effective in predicting turnover functionality as they were in predicting turnover frequency (i.e., voluntary turnover). Hollenbeck and Williams (1986) defined turnover functionality as turnover frequency (leave versus stay) times the individual's performance.

In conclusion, the results found in this study should be regarded as tentative and in need of further testing before generalizations might be made. Additional research with other samples and measures of the variables in question is certainly called for. Perhaps by uncovering another piece of the turnover puzzle, further research along the lines suggested by this study can ultimately help contribute to a more comprehensive understanding of employee turnover.

References

Applebaum, M., & Cramer, E. (1974). Some problems in the non orthogonal analysis of variance. *Psychological Bulletin, 81,* 335-343.

Arnold, H., & Feldman, D. (1982). A multivariate analysis of the determinants of job turnover. *Journal of Applied Psychology, 67,* 350-360.

Bateman, T., & Strasser, S. (1984). A longitudinal analysis of the antecedents of organizational commitment. *Academy of Management Journal, 27,* 95-112.

Beehr, T., & Gupta, N. (1978). A note on the structure of employee withdrawal. *Organizational Behavior and Human Performance, 21,* 73-79.

Blau, G. (1985). A multiple study investigation of the dimensionality of job involvement. *Journal of Vocational Behavior, 27,* 19-36.

Blau, G. (1986). Job involvement and organizational commitment as interactive predictors of tardiness and absenteeism. *Journal of Management, 12,* 577-584.

Blau, G. (1987). Using a person-environment fit model to predict job involvement and organizational commitment. *Journal of Vocational Behavior, 30,* 240-257.

Blau, G., & Boal, K. (1987). Conceptualizing how job involvement and organizational commitment affect turnover and absenteeism. *Academy of Management Review, 12,* 288-300.

Boal, K., & Cidambi, R. (1984, August). *Attitudinal correlates of turnover and absenteeism: A meta analysis.* Paper presented at the meeting of the American Psychological Association, Toronto, Canada.

Brooke, P., Russell, D., & Price, J. (1988). Discriminant validation of measures of job satisfaction, job involvement, and organizational commitment. *Journal of Applied Psychology, 73,* 139-145.

Carmer, S., & Swanson, M. (1973). An evaluation of ten pairwise multiple comparison procedures by Monte Carlo methods. *Journal of the American Statistical Association, 68,* 66-74.

Cotton, J., & Tuttle, J. (1986). Employee turnover: A meta-analysis and review with implications for research. *Academy of Management Review, 11,* 55-70.

Dalton, D., & Todor, W. (1987). The attenuating effects of internal mobility on employee turnover: Multiple field assessments. *Journal of Management, 13,* 705-711.

Dansereau, F., Graen, G., & Haga, W. (1975). A vertical dyad linkage approach to leadership in formal organizations. *Organizational Behavior and Human Performance, 13,* 46-78.

Etzioni, A. (1961). *A comparative analysis of complex organizations.* New York: Free Press.

Gouldner, A. (1958). Cosmopolitans and locals: Towards an analysis of latent social roles. *Administrative Science Quarterly, 2,* 281-306.

Hollenbeck, J., & Williams, C. (1986). Turnover functionality versus turnover frequency: A note on work attitudes and organizational effectiveness. *Journal of Applied Psychology, 71,* 606-611.

Hull, C., & Nie, N. (1981). *SPSS: Update 7-9.* New York: McGraw-Hill.

Kanungo, R. (1982). Measurement of job and work involvement. *Journal of Applied Psychology, 67,* 341-349.

Lodahl, T. (1964). Patterns of job attitudes in two assembly technologies. *Administrative Science Quarterly, 8,* 482-519.

Lodahl, T., & Kejner, M. (1965). The definition and measurement of job involvement. *Journal of Applied Psychology, 49,* 24-33.

March, J., & Simon, H. (1958). *Organizations.* New York: Wiley.

Michaels, C., & Spector, P. (1982). Causes of employee turnover: A test of the Mobley, Griffeth, Hand and Meglino model. *Journal of Applied Psychology, 67,* 53-59.

Miller, H., Katerberg, R., & Hulin, C. (1979). Evaluation of the Mobley, Horner, and Hollingsworth model of turnover. *Journal of Applied Psychology, 64,* 509-517.

Mobley, W. (1977). Intermediate linkages in the relationship between job satisfaction and employee turnover. *Journal of Applied Psychology, 62,* 237-240.

Mobley, W., Griffith, R., Hand, H., & Meglino, B. (1979). Review and conceptual analysis of the employee turnover process. *Psychological Bulletin, 86,* 493-522.

Mobley, W., Horner, S., & Hollingsworth, A. (1978). An evaluation of precursors of hospital employee turnover. *Journal of Applied Psychology, 63,* 408-414.

Morrow, P. (1983). Concept redundancy in organizational research: The case of work commitment. *Academy of Management Review, 8,* 486-500.

Mowday, R., Koberg, C., & McArthur, A. (1984). The psychology of the withdrawal process: A cross-validational test of Mobley's intermediate linkages model of turnover in two samples. *Academy of Management Journal, 27,* 79-94.

Mowday, R., Porter, L., & Steers, R. (1982). *Employee-organization linkages: The psychology of commitment, absenteeism, and turnover.* New York: Academic Press.

Mowday, R., Steers, R., & Porter, L. (1979). The measurement of organizational commitment. *Journal of Vocational Behavior, 14,* 224-247.

Nie, N., Hull, C., Jenkins, J., Steinbrenner, K., & Bent, D. (1975). *SPSS: Statistical Package for the Social Sciences.* New York: McGraw-Hill.

Nunnally, J. (1978). *Psychometric theory.* New York: McGraw-Hill.

Overall, J., & Spiegel, D. (1969). Concerning least squares analysis of experimental data. *Psychological Bulletin, 72,* 311-322.

Porter, L., Crampon, W., & Smith, F. (1976). Organizational commitment and managerial turnover: A longitudinal study. *Organizational Behavior and Human Performance, 15,* 87-98.

Porter, L., & Steers, R. (1973). Organizational, work, and personal factors in employee turnover and absenteeism. *Psychological Bulletin, 80,* 151-176.

Rabinowitz, S., & Hall, D. (1977). Organizational research on job involvement. *Psychological Bulletin, 84,* 265-288.

Siegel, L. (1969). *Industrial psychology* (2nd ed.). Homewood, IL: Irwin.

Steers, R., & Mowday, R. (1981). Employee turnover and post-decision accommodation processes. In B. Staw & L. Cummings (Eds.), *Research in Organizational Behavior* (Vol. 3, pp. 235-282). Greenwich, CT: JAI Press.

Wanous, J. (1980). *Organizational entry: Recruitment, selection and socialization of newcomers.* Reading, MA: Addison-Wesley.