BUREAU OF BUSINESS AND ECONOMIC RESEARCH
SCHOOL OF BUSINESS AND ECONOMICS
UNIVERSITY OF MINNESOTA, DULUTH

WORKING PAPER NO. 84-5

ANTECEDENTS AND OUTCOMES OF ORGANIZATIONAL COMMITMENT: A CONSTRUCTIVE REPLICATION

Jon L. Pierce
University of Minnesota, Duluth

Randall B. Dunham
University of Wisconsin, Madison

Presented at the American Institute for Decision Sciences, Honolulu, Hawaii March 1984.

ABSTRACT

This study represents a constructive replication of the antecedent/outcomes to organizational commitment model developed by Steers (1977). Personal characteristics, job characteristics, reactions to work experiences, and an interactive model of pre-employment expectations and work environment experiences were significant predictors of organizational commitment. Commitment predicted absenteeism during the first three months of employment. A more powerful impact of commitment was on behavioral intentions which in turn had a significant association with subsequent turnover behavior.

Antecedents and Outcomes of Organizational Commitment: A Constructive Replication

Organizational commitment as a construct in the organization and management literature has received increasing attention during the past decade. Conceptual and empirical efforts have been focused on construct definition, an identification of the antecedents and consequences of commitment, as well as upon the process by which organization commitment develops and exerts its influence on subsequent worker reaction.

Porter, Steers, Mowday, and Boulian (1974) defined organizational commitment from both an attitudinal and behavioral perspective. Organizational commitment is defined as the relative strength of an employee's "identification with and involvement in" an organization. The committed employee is said to have a strong belief in and acceptance of the organization's values and its goals. Furthermore the committed employee is willing to put forth a considerable amount of effort working on behalf of the organization. Finally, there is an intense desire on behalf of the organizationally committed employee to maintain one's membership in the organization.

Mowday, Steers, and Porter (1979) suggest that commitment is more than a mere passive loyalty to an organization. Organizational commitment is said to involve an active association between the individual and the organization. The individual internalizes the organization's goals and values, thus becoming psychologically and behaviorally attached to the organization.

Building from previous research on organizational commitment, Steers (1977) constructed a model depicting the antecedents and outcomes of commitment. Three categories of variables were identified which serve to summarize the antecedents

of commitment: personal characteristics, job characteristics, and the nature and quality of an employee's work experiences. A specific set of behavioral variables were also identified by Steers as outcomes of organizational commitment. Steers notes that highly committed employees should expend a high level of effort on the job and thus are among the high performers. In addition the expressed desire and intent to remain employed with the organization, and subsequent actual attendance behavior will be positively associated with the commitment level.

Employing two samples of employees (hospital personnel, and research scientists and engineers), Steers tested his model. In both samples actual work experiences (e.g., organizational dependability, group attitudes, met expectations) had the strongest association ($R = .71$ and $R = .64$) with organization commitment accounting for 41 to 50 percent of the criterion variance. Both job characteristics ($R = .64$ and $R = .38$) and personal characteristics ($R = .55$ and $R = .42$) were also significant antecedents of commitment. Organization commitment was significantly related, in one or both samples, to desire to remain, intent to remain, attendance, and turnover. Commitment was also related to four performance indices (overall performance, quantity, quality, and promotion readiness). The range of behavioral variance explained was from one percent (for performance) to 19 percent (for desire to remain).

Since the publication of the Steers study, other investigations have focused on antecedents and/or outcomes of organizational commitment (Bruning & Snyder, 1983; Morris & Sherman, 1981; Jauch, Glueck, & Osborn, 1978; Stevens, Beyer, & Trice, 1978). With minor exceptions each of these studies produce

results which, in general, support the observations from the Steers investigation.

Investigations conducted by Stevens, Beyer, and Trice (1978), and Morris and Sherman (1981) employed sets of antecedent variables which conceptually parallel the Steers model. Both investigations provide empirical support for the potential role that personal characteristics, job and work environment related experiences play as antecedents of organizational commitment. Stevens et al., for example, found role and personal variables to be significant predictors of organization commitment accounting for 13 percent of the criterion variance. Role related factors (e.g., years in the organization, work overload, skill level of subordinates, years in position) were the most important predictors. Morris and Sherman (1981) were able to account for 47 percent of the variance in organization commitment with a set of personal (sense of competence, education, and age) and experience (role conflict, role ambiguity, and leader initiating structure) variables. The Morris and Sherman study supports and extends the generalizability of the Steer's investigation. The Stevens et al., study, however, suggest that role-related variables may be the most important antecedents of commitment.

In spite of the fact that a picture of "antecedents" of organizational commitment is beginning to emerge, there is a major limitation of these studies due to the fact that each is primarily a cross-sectional investigation. As such, it is not possible to clearly understand the role played by the factors brought to the job setting (e.g., personal characteristics and expectations). In addition, these studies do not allow examination of the role of organizational commitment as it develops concomitantly with various organizational and job experiences.

The present investigation provides a constructive replication of previous tests of the Steers model dealing with antecedents and outcomes of organizational commitment. This study deals with workers prior to their assumption of a job, and follows them through the first six months of their employment period. Specifically this study tests the Steers model by employing longitudinal data, whereby antecedent variables are measured prior to the formation of organizational commitment, and a set of outcomes are examined after the formation of commitment. In addition, pre-employment expectations and met expectations are examined as additional potential predictors of the development of organization commitment.

Method

Study Design

A paper and pencil questionnaire was administered to a group of newly hired hospital employees (nurses, clerical, technicians, administrative, and custodial personnel). The first survey was administered on the day that the employee was formally hired by the organization and before the employees had any experiences with their new job. This first data collection effort measured a set of expectations that the employee was carrying to the new job along with individual difference and demographic data.

At the three month period of employment a second questionnaire was administered. This questionnaire measured employee attitudes as they pertained to various job and work experiences, organization commitment, behavioral intentions pertaining to absenteeism and turnover. At both the three and six

month period of employment, organizational records were employed to gather data on employee absenteeism and turnover behavior.

The organization provided release time for all of the employees who were participating in the study so that they could complete their questionnaires. The research project was defined as one sponsored by the University. Each participant was told that their participation in the project was totally voluntary and that the information that they provided would neither aid, nor interfere with their current employment. One hundred percent of those hired during a three month period of time volunteered to participate in the study.

Variables and their Measurement

A paper and pencil self report questionnaire was administered to the employees for data collection purposes. Organization commitment was measured with Porter, Steers, Mowday, and Boulian's (1974) 15 item instrument. The antecedent variables related to employee reactions to work experiences measured were: physiological and psychological symptom of stress (Patchens, 1970); role conflict and role ambiguity (Rizzo, House, & Lirtzman 1970); experienced meaningfulness, responsibility, and knowledge of results (Hackman & Oldham, 1975); general job satisfaction (Weiss, Davis, England, & Lofquist 1967); kind of work and company identification satisfaction (Smith, 1976); peer cohesion (Buchanan, 1974); internal work motivation (Lawler & Hall, 1970): and job involvement (Lodhal & Kejner, 1965).

The job characteristic variables (i.e., variety, autonomy, identity, feedback, friendship, and dealing with others) were measured with the scales developed by Sims, Sizilagyi, and Keller (1976). Significance derives from the

Hackman and Oldham (1975) work, and the learning scales comes from Rousseau (1978).

Personal Characteristics measured were: sex, age, education, number of dependents, number of previous employers during the past three year, employability, growth need strength (Hackman & Oldham, 1975), internal locus of control (James, 1975), job as central life interest (Dubin, Champoux, & Porter, 1975), and a modification of the organization commitment scale (Porter et al., 1974) was made to reflect a propensity to organization commitment (e.g., I am inclined to feel a great sense of loyalty to the organization I work for).

Behavioral intention variables reflecting absenteeism and turnover intentions were patterned after Mobley, Horner, and Hollingsworth's (1978) work.

Work experience expectations and experiences were measured as they pertain to six variables: job complexity (i.e., an additive model representing autonomy, variety, identity, feedback-job); leader initiating structure and leader consideration behavior (Stogdill, 1963); participation in unit decision making (Pierce, 1979); instrumentality of good performance for intrinsic reward receipt [e.g., for my new job, this is the relationship that I expect between my overall performance and nine intrinsic outcomes (e.g., feelings of personal achievement)]; and expectancy perceptions (i.e., four questions reflecting the relationship between effort and overall job performance.)

Finally met expectations for job complexity, leader consideration and initiating structure, participation in unit decision making, instrumentality and expectancy perceptions derive from subtracting pre-employment expectations on these six variables from the three month work experience score on the respective variable.

Tests for internal consistency were examined with Cronbach's (1951) alpha coefficient. The reliability estimates range from .55 for expectancy expectations to .93 for decision participation expectations.

Analyses

The descriptive statistics for each of the variables are presented in Table 1. Table 1 also contains the reliability estimates as examined through Cronbach's (1951) test for internal consistency (coefficient alpha). Tests for

---
Insert Table 1 about here
---

antecendents of organizational commitment consist of bivariate and multivariate procedures. Multiple regression was employed in order to examine the relationship between the sets of predictor variables and organizational commitment. Zero order correlations will also be employed to assist in data analyses. Finally zero order correlations will be employed in order to examine the association between organizational commitment and employee turnover and absenteeism at the three and six month employment periods.

Results

Antecedents of Organizational Commitment

Personal Characteristics, Job Characteristics, and Reactions to Work Experiences. As shown in Table 2, significant relationships were produced by the regression of organizational commitment onto: reactions to work experiences ($R = .76$), personal characteristics ($R = .71$), and job characteristics ($R = .56$).

Insert Table 2 About Here

All but two of the individual measures of reactions to work experiences (physical stress and role ambiguity) were significantly related to organizational commitment. The size of these relationships ranged from r = .25 for job involvement to r = .67 for company identification satisfaction.

Separate regression analyses revealed that "personality" personal characteristics accounted for more of the commitment variance (R = .62, $p \leq .01$) than did the demographic personal characteristics (R = .40, $p \leq .01$). Univariate analyses identified the propensity to become committed to organizations (r = .62, $p \leq .01$) and number of previous employers (r = -.37, $p \leq .01$) as the two personal characteristics most strongly related to subsequent organizational commitment.

Seven of the nine individual job characteristics variables were significantly related to organizational commitment (the two feedback measures were not related). The size of these relationships ranged from r = .19 for autonomy through r = .49 for learning.

Expectation, Experiences, and Met Expectations. Steers suggested that expectations play a meaningful role in the formation of commitment. In an effort to expand upon the model, the role of pre-employment expectations was examined. Regression of organizational commitment onto pre-employment expectations (i.e., job complexity, leader behavior, expectancy and instrumentality perceptions, and participation in unit decision making) produced non-significant results (despite the fact that, individually, expectancy

expectations [r = .33, p ≤ .01], instrumentality expectations [r = .27, p ≤ .01], and job complexity expectations [r = .26, p ≤ .05] were significantly related to commitment). Work experiences paralleling the six pre-employment expectations were entered into a regression model and had a multiple correlation of .56 (p ≤ .01) with commitment. Four of the six experience variables significantly correlated with commitment. These correlations ranged between .26 (p = ≤ .05) for leader consideration behavior and .45 (p ≤ .01) for instrumentality.

Level of met expectations as a group of variables failed to provide a significant regression with commitment (although individually, met instrumentality expectations was significantly related to commitmen [r = .28, p ≤ .01]). The interaction of pre-employment expectations and subsequent experiences, however, showed a strong relationship with organizational commitment (R = . 65, p ≤ .01). With the exception of leader initiating structure, each individual interaction was significantly related to commitment with correlations ranging from r = .21 for decision participation through r = .47 for instrumentality.

Outcomes of Organizational Commitment

Attendance and turnover behavioral intentions. All five behavioral intentions after three months on the job were significantly related to commitment. The size of these relationships ranged from r = -.23 (p ≤ .05) for absenteeism intention through r = -.43 (p ≤ .01) for thinking of quitting.

Behaviors. During the first three months on the job, commitment was significantly related (See Table 3) to both total time lost due to absenteeism (r = -.28, p ≤ .05) and to the number of whole day absenteeism incidents

---
Insert Table 3 about here

($r = -.31$, $p \leq .01$). No significant relationships were found between commitment at the three month period of employment and behaviors during the second three months on the job. There were, however, significant relationships (see Table 4) between behavioral intentions and turnover during the second three month period of employment and by the end of the year in which this employment with this hospital began.

Insert Table 4 about here

Discussion

Steers (1977) proposed that personal characteristics, job characteristics, and various work experiences contribute to the development of an employee's commitment to the organization. Organizationally committed employees are expected to exert more effort, have better attendance records, and desire to remain in the employment of the organization. Prior attempts to test this antecendent/outcome model of organization commitment have provided preliminary support for the model.

A primary limitation to previous studies is that they have provided tests of a longitudinal model using primarily cross-sectional frameworks. Furthermore, because previous investigations dealt with employees who had been employed by the organization for a period of time prior to the initiation of the studies, organizational commitment levels had already been developed prior to the time of the investigations.

The present study builds upon the previous work by employing a more complete longitudinal design. In addition this investigation studies a group of employees both before and after gaining experiences in the focal organization.

As was found in the previous empirical work personal characteristics, job characteristics, and employee reactions to work experiences accounted for significant amounts of the variance in commitment. Stronger support for the model is found here, however, due to the longitudinal nature of the study and the fact that the emergence of commitment was studied during the three months of employment. The three sets of antecedent variables accounted for 31 to 58 percent of the variance in commitment.

Two personal characteristic variables played a major role. Employees with previous employment histories consisting of many employers were less likely to develop strong organizational commitment. In addition, those employees who entered the organization with a propensity to become organizationally committed, subsequently became more committed during their early employment with the organization. Employees who experienced their jobs as broad in scope and complex were more likely to develop organizational commitment. Work experiences produced a number of significant relations with commitment. Those who experienced role conflict and symptoms of stress on the job for example, were less likely to become committed. A number of other attitudes were positively associated with the formation of commitment (e.g., satisfaction, job involvement, experienced responsibility for work, and experienced meaningfulness of work).

Steers suggested that expectations would play an important role in the development of organizational commitment. The present study examined the direct

impact of pre-employment expectations (i.e., job complexity, leader behavior, expectancy and instrumentality perceptions, and participation in unit decision making). More importantly this study examined the degree to which pre-employment expectations and subsequent employment experiences interact to influence the development of commitment.

Early employment organizational commitment was significantly enhanced by pre-employment expectations. In particular, expectations of a complex job, of instrumentality of good performance for the receipt of intrinsic outcomes, and the expectancy that job effort would influence performance were significantly related to subsequent levels of commitment. The interaction of pre-employment expectations and subsequent experiences were also significantly related to the level of commitment that developed. These interactions were signficant in the area of job complexity, leader consideration, instrumentality, expectancy, and decision participation.

Examining the combined findings of antecedents of commitment leads to the conclusion that commitment is probably influenced by expectations, by experiences, and additionally by the combined impact of expectations and experiences. In terms of process, therefore, we speculate that initial commitment levels are heavily influenced by actual work experiences. In addition during the early employment period, pre-employment expectations are still fresh in the mind of the new employee. Consequently reactions may in part be a function of these expectations. In addition to these direct effects actual experienes will be evaluated relative to pre-employment expectations. The results of this comparison produce a distinct impact upon the emerging organizational commitment.

A final set of observations pertain to the outcomes of commitment. Employees for whom high levels of organization commitment did not develop during the early employment period had a higher level of absenteeism than those employees who became more highly committed. Organization commitment was strongly related to turnover and absenteeism intentions, which in turn were significantly related to subsequent absenteeism and turnover behavior.

As suggested by Mobley (1977), low levels of organizational commitment begin the psychological process associated with turnover (absenteeism). Thoughts about quitting (absenteeism), preceed intentions, which in turn preceed th actual behavioral event.

Despite the strengths of the present study relative to other tests of the Steers model, there are several limitiations which should be noted. First, although this study replicates the general research issues defined by the three previous tests of the Steers model, it does not exactly replicate any of the three individual tests. A second limitation relates to the fact that many of the measure used in this study were based on paper an pencil self-reports raising the probability of common method effects in the results. In addition, the literature provides little guidance pertaining to the temporal development of organizational commitment. Because of this the three and six month periods chosen to examine the development of commitment could be limiting. A final limitiaion is that, although this study was longitudinal, the design and time frames employed did not allow full examination of the causal paths contained in the model.

Table 1

Descriptive Statistics

Variables	Mean	Sta Dev	N	Item	Alpha
Organization Commitment	73.44	13.28	73	15	.86
Personal Characteristics					
Sex	1.31	.47	99	1	N.A.
Age	3.09	1.80	99	1	N.A.
Education	3.65	1.74	99	1	N.A.
Dependents	1.97	1.35	99	1	N.A.
Previous Employers	2.09	1.23	99	1	N.A.
Growth Need Strength	45.76	7.79	99	6	.88
Internal Locus of Control	31.70	4.57	99	11	.79
Job-Content Interest	4.84	2.38	99	1	N.A.
Employability	1.99	.74	99	1	N.A.
Organization Commitment Propensity	79.42	11.23	99	15	.84
Job Characteristics					
Variety	15.12	4.44	73	4	.88
Autonomy	21.48	4.77	73	6	.84
Identity	15.93	3.29	73	3	.87
Feedback-Job	9.29	2.90	73	3	.81
Feedback-Other	8.58	2.72	73	3	.67
Friendship	22.70	5.02	73	6	.89
Deal with Other	12.90	2.00	73	3	.67
Significance	11.81	2.53	73	3	.74
Learning	10.90	3.16	73	3	.86
Work Experiences					
Physical Stress	9.92	4.03	72	4	.57
Psychological Stress	7.86	3.18	73	3	.65
Role Conflict	19.60	8.09	73	8	.80
Role Ambiguity	32.77	5.00	73	6	.69
Meaningfulness	22.14	4.51	72	4	.83
Responsibility	33.74	4.33	73	6	.60
Knowledge Results	19.92	4.35	73	4	.71
General Job Satisfaction	56.26	34.76	73	20	.86
Kind of Work Satisfaction	22.43	4.44	72	6	.85
Company Identification Satisfaction	18.99	2.88	72	5	.84
Peer Cohesion	14.93	2.68	73	4	.74
Internal Work Motivation	33.53	4.60	73	6	.69
Job Involvement	13.88	3.00	73	5	.69

Expectations					
Job Complexity	61.22	9.72	99	19	
Leader Initiating Structure	41.53	5.02	99	10	.84
Leader Considerations	39.43	4.48	99	10	.60
Instrumentality	37.38	6.84	99	9	.86
Expectancy	7.15	1.22	99	4	.55
Decision Participation	25.18	9.12	99	6	.93
Experiences					
Job Complexity	61.82	10.59	73	19	
Leader Initiating Structure	39.77	5.57	73	10	.84
Leader Considerations	38.45	5.93	73	10	.85
Instrumentality	35.60	6.47	72	9	.89
Expectancy	6.93	1.10	73	4	.64
Decision Participations	10.88	4.29	73	6	.78
Met Expectations					
Job Complexity	-.37	12.40	73	-	-
Leader Initiating Structure	-1.55	4.85	73	-	-
Leader Considerations	-1.11	7.13	73	-	-
Instrumentality	-2.78	6.40	72	-	-
Expectancy	-.23	1.28	73	-	-
Decision Participation	-15.23	6.69	73	-	-
Expectations x Experience					
Job complexity	3,860.12	904.19	73	-	-
Leader Initiating Structure	1,658.97	376.64	73	-	-
Leader Considerations	1,522.34	297.07	73	-	-
Instrumentality	1,374.89	328.34	72	-	-
Expectancy	49.96	11.51	73	-	-
Decision Participation	304.47	211.83	73	-	-
Behavioral Intentions 2					
Think Quit	1.97	1.01	72	1	N.A.
Intend Search	2.08	1.41	73	1	N.A.
Intend Quit	1.97	1.38	73	1	N.A.
Think Absenteeism	1.73	.77	73	1	N.A.
Intend Absenteeism	1.07	.30	73	1	N.A.
Terminations - 1	1.77	.42	78	1	N.A.
Terminations - 2	1.52	.50	99	1	N.A.
Total Time Lost Absenteeism 1	819.18	1,036.70	85	1	N.A.
Part Day Absent Incidents 1	5.42	7.73	88	1	N.A.
Whole Day Absent Incidents 1	1.13	1.82	85	1	N.A.
Total Time Lost Absenteeism 2	1313.53	1,182.06	68	1	N.A.
Part Day Absent Incidents 2	6.44	10.11	70	1	N.A.
Whole Day Absent Incidents 2	2.02	1.92	66	1	N.A.

Table 2

Zero-Order and Multiple Correlations With Commitment

Variables	r	Organization Commitment R	R^2
Personal Characteristics		.71**	.51
Sex	-.03		
Age	.06		
Education	-.03		
Dependents	.09		
Previous Employers	-.37**		
Growth Need Strength	.19		
Internal Locus of Control	.13		
Job-Content Interest	.11		
Employability	-.12		
Organization Commitment Propensity	.62**		
Job Characteristics		.56**	.31
Variety	.30**		
Autonomy	.19*		
Identity	.34**		
Feedback-Job	.15		
Feedback-Other	.17		
Friendship	.22*		
Deal with Other	.20*		
Significance	.27*		
Learning	.49**		
Reactions to Work Experiences		.76**	.58
Physical Stress	-.05		
Psychological Stress	-.27**		
Role Conflict	-.41**		
Role Ambiguity	.19		
Meaningfulness	.49**		
Responsibility	.34**		
Knowledge Results	.30**		
General Job Satisfaction	.59**		
Kind of Work Satisfaction	.47**		
Company Identification Satisfaction	.67**		
Peer Cohesion	.28**		
Internal Work Motivation	.45**		
Job Involvement	.25**		

Pre-Employment Expectations		.39	.16
Job Complexity	.26*		
Leader Initiating Structure	.16		
Leader Considerations	.05		
Instrumentality	.27**		
Expectancy	.33**		
Decision Participation	.16		
Work Experiences (3 month)		.56**	.31
Job Complexity	.36**		
Leader Initiating Structure	.05		
Leader Considerations	.26*		
Instrumentality	.45**		
Expectancy	.36**		
Decision Participations	.19		
Met Expectations		.38	.14
Job Complexity	.13		
Leader Initiating Structure	-.12		
Leader Considerations	.19		
Instrumentality	.28**		
Expectancy	.05		
Decision Participation	-.08		
Expectations x Experience		.65**	.42
Job complexity	.41**		
Leader Initiating Structure	.12		
Leader Considerations	.23*		
Instrumentality	.47**		
Expectancy	.42**		
Decision Participation	.21*		

Behavioral Intentions 2	
Think Quit	-.43**
Intend Search	-.33**
Intend Quit	-.38**
Think Absenteeism	-.38**
Intend Absenteeism	-.23*

* $p \leq .05$
** $p \leq .01$

Table 3

Organization Commitment - Behavior Correlations

	Organization Commitment r
Turnover	
Turnover (6 months)	.15
Turnover (year end)	.10
Absenteeism	
Total time lost (3 mo.)	-.28*
Total time lost (6 mo.)	.07
Part Day Incident (3 mo.)	-.19
Part Day Incident (6 mo.)	-.09
Whole Day Incident(3 mo)	-.31**
Whole Day Incident(6 mo.)	.13

* $p \leq .05$
** $p \leq .01$

Table 4

Behavior Intentions - Behavior Correlations

Turnover

	Think Quit	Intend Search	Intend Quit
Terminations 3 - 6 months	.26*	.36**	.43**
Terminations - year end	.25*	.26*	.34**

*p $\leq$ .05
**p $\leq$ .01

References

Bruning, N. S., & Snyder, R. A. Sex and position as predictors of organizational commitment. Academy of Management Journal, 1983, 26, 485-491.

Buchanan, B. Building Organizational Commitment: The socialization of managers in work organizations. Administrative Science Quarterly, 1974, 19, 533-546.

Cronbach, L. J. Coefficient alpha and the internal structure of tests. Psychometrika, 1951, 16, 297-334.

Dubin, R. Champoux, J. E., & Porter, L. W. Central life interests and organizational commitment of blue-collar and clerical workers. Administrative Science Quarterly. 1975, 20, 411-421.

Hackman, J. R., & Oldham, G. R. Development of the Job Diagnostic Survey. Journal of Applied Psychology, 1975, 60, 159-170.

James, W. H. Internal versus external control of reinforcement as a basic variable in learning theory. Unpublished Doctoral dissertations. Ohio State University, 1957.

Jauch, L. R., Glueck, W. F., & Osborn, R. N. Organizational loyalty, professional commitment, and academic research productivity. Academy of Management Journal, 1978, 21, 84-92.

Lawler, E. E. III, & Hall, D. T. Relationships of job characteristics to job involvement, satisfaction, and intrinsic motivation. Journal of Applied Psychology, 1970, 54, 305-312.

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

Mobley, W. H., Horner, S. D., & Hollingsworth, A. T. An evaluation of precursars of hospital employee turnover. Journal of Applied Psychology, 1978, 63, 408-414.

Morris, J. H., & Sherman, J. D. Generalizability of an organizational commiment model. Academy of Management Journal, 1981, 24, 512-526.

Mowday, R. T., Steers, R. M., & Porter, L. W. The measurement of organizational commitment. Journal of Vocational Behavior, 1979, 14, 224-247.

Patchen, M. Participation, Achievement, and Involvement on the Job. Englwood Cliffs, N. J.: Prentice-Hall, 1970.

Pierce, J. L. Employee affective responses to work unit structure and job design: A test of an interviewing variable. Journal of Management, 1979, 5, 193-211.

Porter, L. W., Steers, R. M., Mowday, R. T., & Boulain, R. V. Organizational commitment, job satisfaction, and turnovers among psychiatric technicians. Journal of Applied Psychology, 1974, 59, 603-609.

Rizzo, J. R., House, R. J., & Lirtzman, S. I. Role conflict and ambiguity in complex organizations. Administrative Science Quarterly, 1970, 15, 150-163.

Rousseau, D. M,. Characteristics of departments, positions and individuals: Contexts for attitudes and behavior. Administrative Science Quarterly. 1978, 23, 521-540.

Sims, H. P., Jr., Szilagyi, A. D., & Keller, R. T. The measurement of job characteristics. Academy of Management Journal, 1976, 19, 195-224.

Smith, F. J. Index of Organizational Reactions (IOR), JSAS Catalog of Selected Documents in Psychology, 1976, 6, (MS No. 1265).

Stogdill, R. M. Manual for the Leader Behavior Description Questionnaire - Form XII. Columbus: Bureau of Business Research. The Ohio State University, 1963.

Steers, R. M. Antecedents and outcomes of organizational commitment. Administrative Science Quarterly, 1977, 22, 46-56.

Stevens, J. M., Beyer, J. M., & Trice, H. M. Assessing personal role and organizational predictors of managerial commitment. Academy of Management Journal, 1978, 21, 380-396.

Weiss, D. J., Dawis, R. V., England, G. W., & Lofquist, L. H. Manual for the Minnesota Satisfaction Questionnaire. Minneapolis: University of Minnesota, Industrial Relations Center, Work Adjustment Project. 1967.