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Reward contingency, unemployment, and functional turnover

Chuck R. Williams
Butler University, crwillia@butler.edu

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Based on the valence model of expectancy theory and the Cornell model of job satisfaction, this field study investigated the relationship between reward contingency, unemployment, pay satisfaction, job satisfaction, and functional turnover. The latter of which separates turnover into four categories: poor performing leavers, good performing leavers, poor performing stayers, and good performing stayers. It was conducted with a geographically dispersed sample of sales representatives (i.e., from 25 states and 66 cities), resulting in unemployment rates that ranged from 2 percent to 12 percent. The sales representatives were employed by four companies that paid different combinations of salary and commissions, ranging from mostly salary and little commission to 100 percent commission. A discriminant analysis accounted for 62 percent of the variance in functional turnover and achieved an overall classification hit rate of 67 percent across the four functional turnover groups. Follow-up univariate analyses indicated that objective reward contingency ($R^2 = 0.34$), state unemployment ($R^2 = 0.11$), state sales unemployment ($R^2 = 0.08$), education ($R^2 = 0.09$), and tenure ($R^2 = 0.08$) accounted for most of the variance in functional turnover. Perceived reward contingency, pay satisfaction, job satisfaction, age, and gender were not related to functional turnover.

Traditionally, it has been assumed that employee turnover was inherently bad, that frequent employee turnover was expensive, and that organizations should reduce turnover whenever possible (Brayfield & Crockett, 1955; Herzberg, Mausner, Peterson, & Capwell, 1957). Yet, it has also been argued that some kinds and levels of turnover are actually beneficial or "functional" for organizations (Abelson & Baysinger, 1984; Dalton, Krackhardt, & Porter, 1981; Dalton, Todor, & Krackhardt, 1982; Mobley, 1982; Muchinsky & Tuttle, 1979; Porter & Steers, 1973). For example, Hollenbeck and Williams (1986, p. 609) estimated that simply replacing poor performing leavers with average performing new hires would increase the revenues of retail sales persons in their study by "roughly US$112,000 per person per year."

While thousands of studies have investigated why employees choose to leave their jobs (Mowday, Porter, & Steers, 1982), very little research has directly examined the organizational consequences associated with voluntary employee turnover. In this article, I attempt to extend previous work in the area of functional turnover in a number of ways. First, I review and discuss the different kinds of measures that have been used to examine functional turnover. Second, I present a general model of functional turnover that is based on the valence model of expectancy theory and the Cornell model of job satisfaction. Finally, I present the results of an exploratory test of this model.

MEANING AND MEASUREMENT OF FUNCTIONAL TURNOVER

Dalton et al. (1981,1982) argued that the traditional stay/quit definition of employee turnover overstates the negative consequences of employee turnover and ignores its positive consequences. Accordingly, the "expanded taxonomy" turnover by Dalton et al. distinguished between two kinds of voluntary turnover, dysfunctional turnover, where someone valued by the organization leaves, and functional turnover, where a person not valued by the organization leaves.

Only a handful of empirical studies have been published since Dalton and his colleagues formally distinguished between functional and dysfunctional turnover. However, these studies

have operationalized functional turnover in somewhat different ways. These measures can be categorized according to the way in which "functionality" was measured (rehire/quality/replaceability, opportunity gains/losses, and functional turnover/retention) and the method by which the data were collected (subjective and retrospective vs. objective and prospective).

Rehire? Quality? Replacement?

In a purely descriptive study, Dalton et al. (1981) compared the traditional stay/quit turnover measure to their expanded turnover taxonomy. They determined whether voluntary turnover was functional or dysfunctional by having immediate supervisors retrospectively assess leavers' performance. Turnover was functional if the supervisor would not rehire the person who quit, or if the quality of their job performance was judged to be poor, or if it would be easy to replace the person who left.

In another study which asked supervisors to retrospectively complete a nearly identical set of questions, Campion (1991) found that supervisors judged that work was done more efficiently when poor performers left and that they were more satisfied with the "exchange of employees" when turnover was functional rather than dysfunctional. Functional turnover was also negatively related to employee salaries, meaning that poorer employees who left (i.e., functional turnover) had smaller salaries than good performers who left (i.e., dysfunctional turnover).

Opportunity Costs/Gains: Functionality and Flow

Functional turnover has also been measured in terms of opportunity costs and opportunity gains. In its traditional economic usage, opportunity cost is the difference between what is earned on an investment and what could have been earned had the money been invested elsewhere. With respect to turnover, opportunity performance costs or gains represent the difference between what the organization "earned" the performance contributed by the employee with the organization--and what the organization "could have earned" through the performance of another employee.

Two basic approaches have been used to measure the opportunity costs of turnover. One has been to compare the performance of each leaver with that of the average employee. Here, turnover is functional if the leaver has below average performance, but is dysfunctional if the leaver has above average performance. Campion (1991) used this approach when he asked immediate supervisors to retrospectively compare the productivity of former employees to that of average employees. The other approach to measuring opportunity costs has been to measure turnover flow, which compares the performance of leavers to the performance of their replacements (Boudreau & Berger, 1985; Campion, 1991). Positive turnover flow occurs when leavers are poorer performers than replacements, while negative turnover flow exists if leavers are better performers than replacements.

While functional turnover, comparing leavers to the performance of stayers, and employee flows, comparing leavers to the performance of replacements, are clearly distinct concepts, the differences between them are most likely small in practice (Hollenbeck & Williams, 1986). In

fact, Campion (1991) combined both kinds of comparisons, leavers to stayers, and leavers to replacements, into an overall measure of functional turnover which he labeled "productivity gain." Also the study of Campion (1991,p. 210) found that rehire/ quality/replacements and opportunity gains/losses "are similar measures."

Functional Turnover and Functional Retention

The concept of functional turnover has changed the way in which our field views employee turnover. Furthermore, classifying employee: separations as functional or dysfunctional helps companies more accurately assess the costs and consequences of turnover, Despite these advancements, functional turnover measures have one limitation: they focus only on the consequences of who leaves. Indeed, the samples used in Campion (1991) and Dalton et al. (1981) are composed only of leavers, not stayers. However, this is just one-half of the picture, for just as there are opportunity costs and gains associated with turnover, there are also opportunity costs and gains associated with retention. Organizations sometimes let the wrong people get away, but they sometimes encourage the wrong people to stay, too.

Fig. 1, which has been adapted from Griffeth et al. (1990), illustrates the organizational consequences for turnover and retention.

According to this framework, which has been used in several studies (Griffeth et al., 1990; Phillips et al., 1989; Williams, 1990a,b), organizations incur opportunity costs (i.e., dysfunctional consequences) when below average performers stay and above average performers leave. However, they reap opportunity gains (i.e., functional consequences) when above average performers stay and below average performers leave.

Consequently, in this study, functional turnover is treated as a categorical variable consisting of good performing leavers, good performing stayers, poor performing leavers, and poor performing stayers. Several authors have used this approach when studying functional turnover (Griffeth et al., 1990; Phillips et al., 1989; Williams, 1990a,b). Abelson (1987) also used a similar technique when studying avoidable and unavoidable turnover. The advantage of this categorical measure is that it captures the opportunity gains and losses associated with retention and turnover while also permitting investigation of the different turnover antecedents associated with membership in each of those groups. Consequently, this categorical measure of functional turnover will be used in this study.

GENERAL MODEL OF FUNCTIONAL TURNOVER

Given that functional turnover is a combination of performance and voluntary turnover, Hollenbeck and Williams (1986) suggested that the ability of attitude-based interventions--or that of any other intervention--to influence functional turnover depends on (1) the relationship between attitudes and voluntary turnover, (2) the relationship between attitudes and performance, and (3) the relationship between voluntary turnover and performance. With respect to the first relationship, meta-analytic research confirms that voluntary turnover is negatively related to attitudes such as organizational commitment, work satisfaction, and overall satisfaction (Steel & Ovalle, 1984). Moreover, other meta-analytic research has shown that attitude-based

interventions, such as job enrichment and realistic job previews, can reduce turnover (McEvoy & Cascio, 1985; Premack & Wanous, 1985).

Given the well-established negative relationship between attitudes and voluntary turnover, functional turnover might result if attitudes were positively related to performance (relationship 2). In this way, individuals with positive attitudes toward their jobs would be more likely to stay and would be better performers than those who left. Unfortunately, attitudes, such as organizational commitment and job satisfaction, which predict turnover, generally do not predict performance (Iaffaldano & Muchinsky, 1985; Mathieu & Zajac, 1990; Mowday et al., 1982). So, while attitude-based interventions can reduce overall levels of turnover, it seems unlikely that they would result in a pattern of functional turnover where better performers stayed and poorer performers left.

However, meta-analytic research (relationship 3) does show that performance is negatively related to voluntary turnover (Williams & Livingstone, 1993). More importantly, that research also indicated that the negative relationship between performance and voluntary turnover gets stronger (Mean $r = -0,27$) when rewards are contingent on performance and weaker (Mean $r = -0,18$) when they are not (Williams & Livingstone, 1993). Thus, reward contingency appears to differentially affect the quit/stay decisions and behavior of poorer performers, who become more likely to leave, and better performers, who become more likely to stay. The valence model of expectancy theory, described below, suggests how reward contingency produces those results and how it might influence functional turnover.

Expectancy Theory and Reward Contingency

Expectancy theory predicts that, "a worker's satisfaction with a job or anticipated satisfaction with an occupation results from the instrumentality of the job for attaining other outcomes and the valence of those outcomes," (Mitchell, 1974, p. 1054). Therefore, if a job offers valued outcomes, and the attainment of those outcomes is contingent on remaining with an organization, then remaining with an organization is an attractive, satisfying choice. However, with functional turnover, the goal is to make the job much more satisfying for better performers than for poorer ones. Accordingly, attainment of valued outcomes should be contingent on individual performance rather on organizational membership.

As shown in Fig. 2, an organization wanting to employ a retention-based strategy for influencing functional turnover would begin by making rewards contingent on performance (i.e., objective reward contingency). Workers should then perceive a positive relationship between rewards and performance after actual reward contingencies are established (Dachler & Mobley, 1973; Graen, 1969; Kopelman, 1976; Kopelman & Thompson, 1976). Stated as a formal hypothesis:

H1: Objective reward contingency will have a positive direct relationship with perceived reward contingency.

In turn, if rewards are contingent on performance and workers perceive that this is so, then better performers should be more satisfied than poorer performers (Brayfield & Crockett, 1955;

Cherrington, Reitz, & Scott, 1971; Iaffaldano & Muchinsky, 1985; Lawler & Porter, 1967; Podsakoff &Williams, 1986; Schwab & Cummings, 1970; Vroom, 1964).

H2: The relationship between performance and satisfaction is moderated by perceived reward contingency such that performance and satisfaction will have a stronger positive relationship when perceptions of reward contingency are strong than when they are weak.

If rewards are perceived as contingent on performance, and if poorer performers are less satisfied and better performers more Satisfied, then those differences in satisfaction should be related to a pattern of functional turnover where good performing stayers are the most satisfied, poor performing leavers are the least satisfied, and poor performing stayers and good performing leavers fall somewhere in between. In this way, differences in satisfaction should in turn be related to a pattern of functional turnover.

H3: Rewards-based differences in job satisfaction and pay satisfaction will be related to a pattern of functional turnover.

To date, there has not been a direct test of Hypothesis 3 under strong conditions of reward contingency. However, there is indirect evidence from several studies with very weak or nonexistent reward contingencies. In theory, those conditions should not produce the same pattern of satisfaction differences predicted under conditions of strong reward contingency. Indeed, Hollenbeck and Williams (1986) found that satisfaction facets, turnover intentions, and organizational commitment were unrelated to functional turnover for a sample of retail sales persons who were paid only one-half of 1 percent commission in addition to their salaries. Likewise, in a sample of hospital nurses, Phillips et al. (1989) found that high performing leavers (rather than low performing leavers) were most dissatisfied with promotion and growth opportunities, while low performing stayers were most satisfied (rather than high performing stayers). Finally, in another study with weak reward contingencies, Griffeth et al. (1990) found that low performing leavers were the least satisfied, but that good performing stayers (who should be the most satisfied when rewards are contingent on performance) had satisfaction levels similar to good performing leavers and poor performing stayers.

In summary, the valence model of expectancy theory, along with empirical research, suggests that reward contingency should be related to functional turnover because it increases the satisfaction of better workers and decreases the satisfaction of poorer performers.

Cornell Model of Job Satisfaction and Unemployment

Predictions concerning the relationships between reward contingency, satisfaction, and functional turnover focus exclusively on influences within organizations. However, external forces such as labor market conditions are related to worker satisfaction and turnover (Schwab, 1991), and may influence functional turnover as well.

Based on the Cornell model of job satisfaction (Smith, Kendall, & Hulin, 1969), Hulin, Roznowski, and Hachiya (1985) reasoned that employees adapt or change their level of job satisfaction depending on actual, not perceived, labor market conditions. In tight labor markets,

where unemployment rates are high and there are few external job opportunities, workers will be more satisfied with their present jobs. However, when unemployment rates are low and many more jobs are available, workers should be less satisfied with their jobs. In support of this relationship, Hulin (1966) and Kendall (1963) found that communities with poor economic conditions (i.e., high unemployment rates, low percentage of owner owned housing, low median income per family) had higher levels of job satisfaction than communities with good economic conditions. It also follows from the Cornell model that unemployment rates should be directly and positively related to pay satisfaction. Employees who work in areas with high unemployment (i.e., few job alternatives) should have lower pay standards that should result in higher satisfaction because of smaller discrepancies between actual pay and desired pay. Stated as a formal hypothesis:

H4: Unemployment will account for significant unique variance in both job satisfaction and pay satisfaction, and that relationship will be positive such that satisfaction levels are higher when unemployment is higher.

Unemployment is also predicted to have a direct effect on functional turnover over and beyond the effects of all other variables. Both organizational and individual level analyses (Dreher & Dougherty, 1980; Eagly, 1965), indicate an inverse, direct relationship between unemployment levels and turnover. Further, Gerhart (1990) found that unemployment rates had significant direct effects on voluntary turnover over and beyond job satisfaction, perceived ease of movement, and intentions to stay.

While high levels of unemployment reduce employee turnover, the research evidence is much less clear on what kind of effect unemployment should have on functional turnover. In other words, will high levels of unemployment encourage better or poorer performers to stay? Jackofsky (1984) argued that better performers should find it easier to obtain another job, but did not speculate about the influence of unemployment rates. Direct evidence on this issue is also somewhat mixed. The meta-analysis of Williams and Livingstone (1993) indicated that the negative relationship between performance and turnover did not vary with differences in national, industry, occupational, and city unemployment rates. These data suggest that unemployment would not affect the pattern of functional turnover. However, Williams and Livingstone (1993) did find significant differences for state unemployment rates that comprised two of the three unemployment measures in the present study. In all, because the research's evidence was mixed, I specified the following nondirectional hypothesis.

H5: Unemployment will have a direct effect on functional turnover over and beyond the effects of all other variables.

In summary, the valence model of expectancy theory and the Cornell model of job satisfaction suggest that performance contingent rewards and unemployment should be related to satisfaction, which in turn should be related to functional turnover.

METHOD Study Design

The "maxmincon" principle of Kerlinger (1973,pp. 307-313) guided study design decisions. Maxmincon refers to maximizing the systematic variance under study, controlling extraneous systematic variance, and minimizing error variance.

Systematic variance in the two independent variables, reward contingency and unemployment, was maximized by obtaining participants who: (1) worked in jobs that differed significantly in reward contingency, and (2) who worked in separate labor markets which differed significantly in the availability of external jobs (Steel & Griffeth, 1989). The first criterion was met by sampling sales representatives from four companies (A, B, C, and D) which paid different combinations of salaries and bonuses.[sup1] The bonus and salary combinations were 7 percent and 93 percent for the sales representatives of Company A, 27 percent and 73 percent for the sales staff of Company B, 36 percent and 64 percent for the sales staff of Company C, and 0 percent and 100 percent for the sales representatives of Company D who were paid straight commission. The second criterion was met since the sales representatives in each firm were geographically dispersed in independent sales and labor markets throughout 25 states and 66 cities. Unemployment rates ranged from a high' of 12.4 percent to a low of 2.2 percent. With the exception of Gerhart (1990), who studied a national cohort of over 2,800 young adults, this level of variance in unemployment is rarely found in any one turnover study (Steel & Griffeth, 1989).

Pre-existing differences between sales forces and companies were potential sources of extraneous systematic variance. Accordingly, a combination of homogenous sampling and statistical control was used to control these influences (Kerlinger, 1973). Although study participants were employed by four different companies, the sample was made as homogeneous as possible with respect to job requirements. In each company, sales representatives were located in their local markets close to customers and away from company and regional headquarters. Management control was outcome-based, and achieved through sales quotas. Except for sales managers, face-to-face contact with company management was infrequent. Two kinds. of statistical control were used to reduce extraneous systematic variance. First, individual difference variables such as age, gender, education, and tenure were measured and entered as covariates in all analyses. Secondly, three dummy-coded variables were created to capture any extraneous variance attributable to between company differences. Those organization dummy variables, along with the individual difference variables, were entered as covariates in the discriminant analysis of functional turnover.

The last part in the maxmincon philosophy of Kerlinger (1973) is to minimize error variance. This was done by using standardized measures with established reliability and construct validity. In fact, the internal consistency reliability for all measures was 0.80 or higher. Another way in which error variance was minimized was to treat objective reward contingency (i.e.. commissions/salary + commissions) as an individual level variable, With four different levels of reward contingency, the standard procedure would be to create three dummy-coded variables to capture the variance. However, dummy variables were not appropriate because there was substantial variance in objective reward contingency within Companies A, B, and C (but not Company D that only paid 100% commissions). For example, within Company C, the average amount of total pay attributable to sales commissions averaged 59 percent, but ranged from 27 percent to 91 percent, depending on individual sales performance. That is, the more pay received from commissions relative to total compensation, the greater the objective reward contingency.

So in order to capture these differences, increase measurement accuracy, and reduce error variance, objective reward contingency was treated as an individual level variable in the analysis.

Procedure and Sample

Questionnaire packets containing cover letters from the researcher and the organization, a questionnaire, and a return envelope, stamped and addressed to the university, were distributed by company personnel departments. If a questionnaire was not returned, follow-up packets were sent directly to sales representatives after I month, and then again after 2 months. Approximately 90 percent of the returned questionnaires were received within 6 weeks of the initial mailing. The questionnaire response rates for each company were 9 of 22 (41%) for Company A, 30 of 58 (52%) for Company B, 21 of 42 (50%) for Company C, and 75 of 334 (22%) for Company D. The lower response rate in Company D was not unexpected since only one round of questionnaires was mailed to its sales representatives because of cost considerations.

Because response rates were lower than expected, a multivariate analysis of variance was used to compare questionnaire responders to nonresponders on common data obtained from company records. This analysis indicated no significant differences between responders and nonresponders in turnover, tenure, performance, total compensation, reward contingency, or gender in companies A, B, and C. However, in Company D, follow-up univariate analyses indicated small differences between responders and nonresponders in tenure (13 vs. 11 months, $p < 0.01$), and in average total pay (US\$2,364 vs. US\$1,803, $p < 0.01$). Overall, these data indicated that response bias was small, and that the respondents were not meaningfully different from nonrespondents.

Missing data reduced the final, usable sample from 135 to 98. A total of 45 participants, 8 from Company A, 20 from Company B, and 17 from Company C, were paid according to a salary plus commission system. The remaining 53 participants, all from Company D, were paid straight commission. Six percent of the final sample possessed a master's degree, 14.2 percent had some graduate school, 42.9 percent had graduated college, and 31.6 percent had some college, while the remaining 5.1 percent had graduated high school. The average age was 37, average tenure was 5 years, 89 percent were male, and 24 percent had quit after 1 year.

Measures

Objective Reward Contingency. Objective reward contingency was measured by determining the percentage of total pay derived from commissions for each sales representative. Average monthly commissions were divided by the sum of average monthly salary and average monthly commissions.

Perceived Reward Contingency. The measure of instrumentality used here was developed by Ilgen, Nebeker, and Pritchard (1981) in an experimental work simulation designed to determine the reliability and validity of traditional and newly developed measures of expectancy theory constructs. Their results indicated that this within-person format had high test-retest reliability and strong validity. When modified for the sales representatives in this study, this item read:

"Using the following scale, rate each item by placing a number between 0 and 100 on each line such that the lines in one row add to 100."

If your sales performance for the year totalled US$, what would be your chances of earning an annual income of ...

Participants indicated theft chances of receiving six levels of annual pay (starting with no pay to differentiate sales staffs on straight commission from those on salary plus commission, proceeding to five more levels of annual pay corresponding to average pay plus and minus 2 SD) for each of six levels of annual sales performance (starting with no sales and proceeding to five levels of performance corresponding to average performance plus and minus 2 SD). Responses were combined to form a six by six matrix with rows representing pay levels and columns representing performance levels. Values in the matrix were treated as frequencies in a bivariate distribution and a within-person correlation coefficient was calculated and then transformed to Fisher's z' scores to normalize the distribution (Ilgen, Pritchard, Dugoni, & Nebeker, 1980).

Pay Satisfaction. Participants completed the pay satisfaction scale of the Job Descriptive Index (JDI) (Smith et al., 1969). Evidence of the JDI's reliability, and convergent and discriminant validity can be found in Johnson, Smith, and Tucker (1982). Responses were made using the conventional JDI format: "Y" for yes was coded 3, "N" for no was coded 0, and "?" for uncertain was coded 1 (Smith, Budzeika, Edwards, Johnson, & Bearse, 1986). Its internal consistency reliability was 0.81.

Job Satisfaction. The four-item scale of Hoppock (1935) was used to measure overall job satisfaction. There were seven alternatives for each item (total scores ranged from 4 to 28) and participants were instructed to choose one of the seven responses in each item. Internal consistency reliabilities for this measure have been very good, ranging from 0.76 to 0.93 (Hoppock, 1935; McNichols, Stahl, & Manley, 1978). Coefficient alpha for this scale was 0.80.

Unemployment. State unemployment, state sales unemployment (i.e., for sales representatives, in general, within each state), and city unemployment figures were obtained from two US Department of Labor publications, the Geographic Profile of Employment and Unemployment, and Employment and Earnings. Unemployment figures were then assigned to participants based on the sales territories reported by each company.

Performance. Because of the differences in raw sales performance measures across companies arising from different products and product prices, performance scores were standardized by month within each organization to facilitate comparison of individual sales performance across companies? Standardized monthly performance scores were then averaged to create two measures of individual performance.

Past performance was an average of the 3 months of performance for each sales representative just prior to questionnaire administration. These data were used to conduct a predictive test of the moderating effect of perceived reward contingency on the relationship between performance and satisfaction. Overall performance was the average of standardized monthly, performance for all months before and after questionnaire administration (3 to 12 months after, depending on when

and if the employee quit). Overall performance was used to compute functional turnover scores. Past performance and overall performance were positively correlated (r = 0.71).

Functional Turnover. Four mutually exclusive groups were created by separating stayers and leavers (voluntary turnover data were gathered I year after questionnaire administration) into above and below average performers on the basis of overall performance within each company.

RESULTS Hypothesis Testing

Hypothesis 1. Table 1 shows the intercorrelations among study variables. As predicted, objective reward contingency was positively associated with perceived reward contingency (r = 0.56, p less than or equal to 0.05). Thus, there was a strong relationship between actual reward contingencies and perceptions of those contigencies.

Hypotheses 2 and 4. Based on expectancy theory, Hypothesis 2 stated that employee performance and satisfaction would have a stronger positive relationship when perceptions of reward contingency are strong than when they are weak. Based on the Cornell model of job satisfaction, Hypothesis 4 stated that unemployment would account for significant unique variance in and be positively related to both job satisfaction and pay satisfaction. Hypotheses 2 and 4 were tested with identical hierarchical moderated regression equations, one for pay satisfaction and the other for job satisfaction. Covariates (i.e., age, tenure, education, and gender), 'and main effects (i.e., past performance, perceived reward contingency, state unemployment, state sales unemployment, and city unemployment) were entered simultaneously in step i. The past performance X perceived reward contingency interaction term was entered at step 2.

Hypothesis 2 was partially supported. The past performance X perceived reward contingency interaction term accounted for significant additional variance beyond the main effects in step 1 for the pay satisfaction equation ($sr[sup2] = 0.042$, p less than or equal to 0.03; full equation $R[sup2] = 0.22$, p less than or equal to 0.01), but not for the job satisfaction equation ($sr[sup2] = 0.0002$, p less than or equal to 0.73; full equation $R[sup2] = 0.09$, p less than or equal to 0.53). The form of this interaction, derived from the full regression equation (Cohen & Cohen, 1983; Stone & Hollenbeck, 1989), was consistent with Hypothesis 2 because performance and pay satisfaction were positively related (r = 0.37, p less than or equal to 0.05) under conditions of higher perceived reward contingency than under conditions of lower perceived reward contingency (r = -0.01, n.s.).

Hypothesis 4 was not supported. In contrast to the Cornell model of job satisfaction, none of the unemployment variables entered in step 1 accounted for significant variance in job satisfaction or pay satisfaction after controlling for the influence of the other variables. Moreover, even the zero-order correlations shown in Table 1, which provide a weaker test of hypothesis 4, indicated that state unemployment, state sales unemployment, and city unemployment were unrelated to job satisfaction, and negatively correlated with pay satisfaction. The Cornell model predicted that pay satisfaction and job satisfaction would be positively related to unemployment levels.

Hypotheses 3 and 5: Discriminant and Classification Analysis. Hypotheses 3 and 5 dealt with functional turnover. Because functional turnover is a categorical variable with four unique groups, hierarchical multivariate discriminant analysis was used to test these hypotheses. The results of the discriminant analysis were corroborated by using linear classification function coefficients to assess the accuracy (i.e., hit rates) with which sales representatives could be correctly classified into each of the four functional turnover groups. Poor classification accuracy is indicated when, for example, poor performing leavers are incorrectly classified by the predictors as a poor performing stayer, a good performing leaver, or a good performing stayer. Finally, planned orthogonal mean contrasts between functional turnover groups were conducted.

As shown in Table 2, the dummy-coded organization variables were entered as covariates in step I of the discriminant analysis to control for extraneous variance due to pre-existing between company differences. While there were significant differences (29%; multivariate $R^2 = 1 - LAMBDA$; LAMBDA is Wilk's LAMBDA) in functional turnover across organizations, the classification functions derived from the discriminant analysis in step 1 did not allow overall classification of the four functional turnover groups (35.71%,) at a rate significantly better than chance (33.28%).[sup3] Age education, gender, and tenure were entered as covariates in step 2 of the analysis to control for pre-existing individual differences. Addition of the demographic variables in step 2 resulted in an additional 4 percent of explained variance (from $A = 0.71$ to $A = 0.67$). While overall classification accuracy was now significant (40.82%, p less than or equal to 0.06), the addition of demographic variables did not represent a significant increase in overall classification accuracy beyond that achieved with the dummy-coded organization variables in step 1 (35.71%).

Hypothesis 3, which stated that rewards-based differences in job satisfaction and pay satisfaction would be related to a pattern of functional turnover, is a mediated hypothesis. In other words, objective reward contingency and perceived reward contingency produce a pattern of functional turnover through their effects on job satisfaction and pay satisfaction. Consequently, hypothesis 3 was tested by entering job satisfaction and pay satisfaction (at step 3) before objective and perceived reward contingency (at step 4). Hypothesis 3 will be supported if job satisfaction and pay satisfaction account for significant incremental variance and classification accuracy in functional turnover, and if objective and perceived reward contingency do not.

At step 3 of the analysis, inclusion of job satisfaction and pay satisfaction resulted in a 3 percent increase in variance explained (from $A = 0.67$ to $LAMBDA = 0.64$). However, that change was probably nonsignificant given that the canonical correlation, R_c, which represents the degree to which the discriminant function is related to group differences, was unchanged from step 2. In fact, the small structure coefficients (s_c), which represent the correlation between each discriminating variable and the canonical variate (and are similar to factor loadings in factor analysis), suggest that job satisfaction ($s_c = 0.11$), and pay satisfaction ($s_c = 0.02$) probably do not contribute to differentiation between the functional turnover groups. However, overall classification accuracy did increase significantly over step 2, from 40.82 percent to 51.02 percent.

Table 3, which presents the separate hit rates for each group, shows that this was due to the improved classification of good performing stayers (60.87%). Yet that improvement must be

viewed cautiously because classification of good performing stayers was not significantly better than that achieved with organization alone (54.35%) in step 1. Overall, these data suggest that there were probably not reliable differences in job and pay satisfaction across the functional turnover groups. Additional information on hypothesis 3 from univariate F tests and planned orthogonal contrasts will be presented below.

Hypothesis 3 is also rejected because inclusion of objective and perceived reward contingency at step 4 of the analysis resulted in a large increase in explained variance (i.e., from LAMBDA = 0.64 to LAMBDA = 0.44). If job satisfaction and pay satisfaction had acted as mediators, objective and perceived reward contingency would not have accounted for significant incremental variance. The large structure coefficient for objective reward contingency (s[subc] = 0.77), indicated that most of the group separation at step 4 was attributable to objective reward contingency and not perceived reward contingency (s[subc] = 0.14). While the overall level of classification was significant (55.10%) at step 4, note that the addition of objective and perceived reward contingency did not produce a significant increase in overall classification accuracy beyond step 3 (51.02%). However, as shown in Table 3, the inclusion of reward contingency significantly improved the classification hit rate for poor performing stayers from 50 percent (14 out of 28) in step 2 and 39.29 percent (11 out of 28) in step 3 to 64.29 percent (18 out of 24) at step 4.

Step 5 of the analysis tested hypothesis 5, which predicted that unemployment would have a direct effect on functional turnover over and beyond the effects of all other variables. Tests of hypothesis 5 were generally supportive, but not conclusive. While inclusion of the unemployment variables at step 5 produced a 6 percent increase in variance explained (from LAMBDA = 0.44 to LAMBDA = 0.38), there was no change in the canonical correlation (R[subc] = 0.68), and only minimal change in the structure coefficients, with the latter indicating that objective reward contingency (s[subc] = 0.77), not unemployment (state unemployment, s[subc] = 0.15; state stales unemployment, s[subc] = 0.12; and city unemployment, s[subc] = 0.06), was most strongly related to the canonical variate maximizing group separation. However, the classification analysis demonstrated that the addition of unemployment figures significantly increased the overall classification hit rate from 55.10 percent in step 4 to 67.35 percent in step 5. In particular, as shown in Table 3, inclusion of unemployment figures resulted in significant improvement in the classification of good performing leavers, from 21.43 percent in step 4 to 64.29 percent in step 5, and good performing stayers, from 60.87 percent in step 4 to 71.74 percent in step 5.

Hypotheses 3 and 5: Univariate Analysis and Orthogonal Contrasts. Follow-up univariate analyses were conducted to further explore hypotheses 3 and 5. When univariate differences were found, orthogonal contrasts comparing each of the four functional turnover groups to each other were then examined.

Hypothesis 3 predicted that when rewards were perceived as contingent on performance, poorer performers would be less satisfied and better performers would be more satisfied. Those differences, in turn, should be related to a pattern of functional turnover where good performing stayers are the most satisfied, poor performing leavers are the least satisfied, and poor performing stayers and good performing leavers fall somewhere in between. Consistent with the

discriminant analysis, a follow-up univariate analysis indicated that there were no pay satisfaction ($R^2 = 0.032$, n.s.) and job satisfaction differences ($R^2 = 0.01$, n.s.) across the functional turnover groups. So hypothesis 3 is again rejected.

Hypothesis 5 stated that unemployment would have a direct effect on functional turnover after controlling for the effects of other variables. However, due to the mixed research evidence, the hypothesis was exploratory and nondirectional. The univariate analysis and orthogonal contrasts for unemployment indicated that poor performing leavers faced higher rates of state unemployment ($R^2 = 0.106$, p less than or equal to 0.05) and state sales unemployment ($R^2 = 0.077$, p less than or equal to 0.05) than good performing leavers, poor performing stayers, and good performing leavers. That is, poor performers left despite significantly poorer prospects for alternative jobs. A similar pattern occurred for city unemployment, but those differences ($R^2 = 0.042$, n.s.) were nonsignificant.

Additional Orthogonal Contrasts. Orthogonal contrasts also indicated that there were significant differences in education, tenure, and objective reward contingency across the functional turnover groups, but not age, gender, or perceived reward contingency. As in the discriminant analysis, the largest differences were in objective reward contingency. Orthogonal contrasts for objective reward contingency ($R^2 = 0.343$, p less than or equal to 0.05) indicated that poor and good performing leavers, respectively, received 100 percent and 91 percent of their pay from commissions. Those percentages were significantly larger than the percentage earned by good performing slayers (77%) who, in turn, earned a much larger percentage of commissions than poor performing stayers (39%).

To better understand those effects, orthogonal contrasts were also conducted on the components of objective reward contingency, average total monthly pay, average monthly commissions, and average monthly salary. Not surprisingly, good performing stayers had the highest total pay (US$3,862), poor performing leavers had the lowest total pay (US$1,255), and good performing leavers (US$3,184) and poor performing stayers (US$3,057) fell in between. Also as expected, good performers earned significantly larger commissions than poorer performers. However, the most interesting results were found with salary differences. Ironically, poor performing slayers received larger salaries (US$1,990) than good performing slayers (US$1,108), who, in turn, received a larger salary than either good performing leavers (US$377) or poor performing leavers (US$0.00). While not an orthogonal contrast, another telling difference between the two groups of poor performers is that the average salary for poor performing stayers (US$1,990) was much larger than the average monthly commission (US$1,255) received by poor performing leavers.

DISCUSSION

The effects of reward contingency and unemployment on job satisfaction and pay satisfaction are discussed first, followed by an examination of their influence on functional turnover.

Job Satisfaction and Pay Satisfaction

Reward Contingency. Consistent with expectancy theory and past research, differences in objective reward contingency were strongly related to differences in perceived reward contingency. In turn, perceived reward contingency served as a moderator such that performance and pay satisfaction were positively related when perceptions of reward contingency were strong and unrelated when perceptions of reward contingency were weak. Yet, despite this moderated relationship, the significant differences in objective and perceived reward contingency across the four functional turnover groups were not accompanied by differences in job satisfaction and pay satisfaction. However, Griffeth et al. (1989), Hollenbeck and Williams (1986), and Phillips et al. (1989) also found limited differences in satisfaction across functional turnover groups, but in circumstances where reward contingencies were weak or nonexistent.

One possible post hoc explanation for the absence of significant differences in satisfaction across functional turnover groups, especially pay satisfaction, is procedural justice (Greenberg, 1987; Thibaut & Walker, 1975). It may be that the presence of a commission system in each company, no matter how large or small, was enough to develop the belief that one's pay was justly earned, even if one's pay was low. This explanation was tested by conducting post hoc orthogonal contrasts between functional turnover groups on two items from the JDI pay satisfaction scale related to the issue of procedural justice. Some support was found for this hypothesis because there were no differences across functional turnover groups on either item, "Less than I deserve" ($F = 1.07$, p less than or equal to 0.37), and "Underpaid" ($F = 0.44$, p less than or equal to 0.72). This suggests that poor performing leavers, good performing leavers, and good performing stayers, all of whom received most of their pay from commissions, felt no differently about the fairness of their pay than did poor performing stayers, who received most of their pay from salary rather than commissions. Since this could account for the lack of sizable differences in job and pay satisfaction, future research should examine how procedural justice influences perceptions toward reward systems and functional turnover.

Discrepancy theory provides another potential explanation for the lack of systematic differences in pay satisfaction across functional turnover groups. According to the discrepancy theory (Goodman, 1974; Heneman, 1985; Lawler, 1971; Locke, 1976; Rice, Phillips, & McFarlin, 1990), employees compare the pay they receive to a pay standard. Consistent with the theory, Rice et al. (1990) found that people with higher pay standards were less satisfied than those with lower pay standards. If pay standards rise with individual performance, then conditions of strong reward contingency may simultaneously raise pay and pay standards for good performers. When this occurs, good performers should not be any more satisfied with their pay than poor performers. Thus, discrepancy theory would predict that it would be difficult to affect functional turnover through pay and pay satisfaction (Williams & Livingstone, 1993).

Unemployment. Based on the Cornell model of job satisfaction (Smith et al., 1969), it was predicted that unemployment rates would be positively related to job satisfaction and pay satisfaction. This hypothesis was not supported because city, state, and state sales unemployment were unrelated to job satisfaction and negatively correlated with pay satisfaction. However, these results are similar to those found by Gerhart (1990). In his study of nearly 1,400 young adults, ages 19 to 23, unemployment was unrelated to job satisfaction.

As a discrepancy theory, the Cornell model predicted that employees who work in areas with high unemployment (i.e., with few job alternatives) should have lower expectations or standards for their current jobs and job pay, and should therefore be more satisfied. That is, satisfaction increases as unemployment increases because the discrepancy between what employees have and what they want (i.e., what they could get elsewhere) gets smaller. However, the negative correlation between pay satisfaction and unemployment found in this study suggests a different process. That is, as unemployment drops and alternative employment becomes more plentiful, pay satisfaction increases. This is because the increased competition for a smaller pool of workers pushes wages up and entices workers to leave their current jobs for higher paying jobs. Pay satisfaction would increase because there is now a larger discrepancy between actual pay and pay standards, the latter of which is likely based on pay from one's previous job. Thus, according to this alternative explanation, it is actual pay rather than pay standards that changes.

Functional Turnover

Reward Contingency. More than any other variable, objective reward contingency exhibited the most discriminatory power across the functional turnover groups. In retrospect, this is not surprising since commission systems are designed to differentiate based on performance, and functional turnover is one part performance and one part turnover. However, objective reward contingency did more than distinguish good performers from poor performers. In fact, the largest differences in objective reward contingency occurred between poor performing stayers, who received only 39 percent of their pay from commissions, and poor performing leavers who received 100 percent of their pay from commissions. Ironically, that difference had nothing to do with commissions since poor performing stayers (US$1,067) and poor performing leavers (US$1,255) earned roughly equivalent commissions. The difference was due to monthly salary. Regardless of how well they performed, poor performing stayers received an average monthly salary of nearly US$2,000 per month. In comparison, poor performing leavers, whose pay was 100 percent contingent on performance, received no monthly salary whatsoever.

Overall, these results suggest that when pay contingencies are present they exert an influence on functional turnover by virtue of their effect on poor performers. Weak pay contingencies appear to encourage the retention of poor performers, whereas strong pay contingencies appear to encourage poor performers to leave. However, pay contingencies did not affect the turnover of poor performers through differences in job satisfaction or pay satisfaction. Instead, reward contingency seems to directly affect the retention or separation of poor performers.

Finally, although these data seem to suggest that pay contingency does not influence the retention or separation of good performers, all that may properly be concluded is that pay contingency does not appear to influence the turnover of good performers when reward contingency is strong. Thus, these data do not indicate whether weak levels of reward contingency would encourage better performers to leave. This potential must be determined in future research.

Unemployment. Support was found for the exploratory hypothesis that unemployment would have a direct effect on functional turnover. However, orthogonal contrasts across the functional turnover groups revealed a surprising result. Rather than leaving when unemployment was low

and job opportunities were high, poor performing leavers left when unemployment was high and job opportunities were low. This anomaly is explained, however, by considering that poor performing leavers, all of whom were paid 100 percent commission, earned just US$1,255 a month, which was considerably smaller than the total pay received by good performers, or by poor performing stayers.

Indeed, a post hoc investigation reveals that the monthly commissions earned by poor performing leavers were, on average, US$554 less than the average wage in their city and US$463 less than the average wage in their state (Employment and Earnings, US Department of Labor, Bureau of Labor Statistics, May 1988). Thus, poor performing leavers probably left because of their poor performance and relatively low pay. In contrast, poor performing stayers remained with their organizations in spite of their poor performance and because of their relatively high pay.

CONCLUSIONS

These results, along with meta-analytic data (Williams & Livingstone, 1993) which indicate that reward contingency moderates the relationship between performance and voluntary turnover, Suggest that reward contingency can contribute to a positive pattern of functional turnover where poorer performers are more likely to leave. However, this study and others (Griffeth et al, 1990; Hollenbeck & Williams, 1986; Phillips et al., 1989) also indicate that satisfaction variables are not consistently good predictors of functional turnover.

Unfortunately, there is much that is still not known about functional turnover. For example, do good and bad performers frame turnover decisions differently? When poor performers quit, is it primarily withdrawal from a negative situation? Or, conversely, when better performers quit, is it because they are attracted to a better job rather than withdrawing from their present job? Do better performers value different rewards than do poorer performers? How strong must reward contingency must be before functional turnover occurs? Will weak reward contingencies contribute to dysfunctional turnover and retention by encouraging good performers to leave and poorer performers to stay? Organizational efforts to influence and manage functional turnover are likely to be unsuccessful unless we address these basic questions.

ACKNOWLEDGMENTS

NOTES

[sup1]. Company A is a manufacturer and distributor of different kinds of filters and filtering processes, and sells these products in industrial, medical and environmental markets. Company B manufactures and sells office furniture products, ranging from chairs and smaller open office systems to fully integrated office systems. Company C manufactures, sells, and distributes conveyor equipment ranging from gravity rollers to overhead powered chain conveyors.

Company D is a manufacturer and distributor of computerized automobile engine analyzers that are used to troubleshoot engine problems and/or evaluate engine exhaust emissions.

[sup2]. Even though standardization makes performance measures comparable across companies, note that the performance comparison inherent in functional turnover is not across companies, but within companies. In other words, employees are categorized as good or poor performing stayers (or leavers) depending on whether their individual performance is above or below the average performance within their company. As such, standardization is not needed when functional turnover is treated as the categorical grouping variable in discriminant analysis (see Results). However, standardization was required to ensure the comparability of performance measures in the moderated regression analysis that was used to test Hypothesis 2.

[sup3]. In all classification analyses, the Box M test for homogeneity of variance-covariance matrices was significant (McLaughlin, 1980). Accordingly, quadratic classification based on separate group covariance matrices was substituted for the default classification based on pooled covariance matrices, thus producing a conservative test which is biased in favor of the null hypothesis (McLaughlin, 1980).

```
CHANCES IN 100 OF GETTING THIS ANNUAL PAY
No        A Slight    A Fifty-Fifty   A Good    Certain This
Chance    Chance                      Chance    Will Happen
                      Chance
(0)       (25)        (50)            (75)      (100)


Legend for chart:

A1=US$00.00
A2=per year
A3=+
A1    US$-2SD     US$-1SD     US$X        US$1SD      US$2SD
A2    per year    per year    per year    per year    per year
A3          +           +           +           +            = 100
```

TABLE 1 Intercorrelations Among Study Variables
```
Legend for chart:

A1=Variables
A2=(1) Age
A3=(2) Gender[supa]
A4=(3) Education[supb]
A5=(4) Tenure
A6=(5) Ave Sal
A7=(6) Ave Comm
A8=(7) Ave Tot US$
A9=(8) Obj Rew Co
B2=(9) Per Rew Co
B3=(10) Pay Sat
B4=(11) Job Sat
B5=(12) Past Performance
B6=(13) Overall Performance
B7=(14) Staying[supc] With Company
B8=(15) State Unemployment
B9=(16) State Sales Unemployment
```

B0=(17) City Unemployment
C1=X
C2=37.13
C3=0.11
C4=3.85
C5=5.02
C6=US$1,111.15
C7=US$2,168.72
C8=US$3,268.98
C9=0.70
C0=1.65
D1=32.69
D2=20.53
D3=0.16
D4=0.11
D5=0.76
D6=6.75
D7=5.08
D8=6.04
D9=SD
D0=8.39
F0=0.32
F1=0.95
F2=5.25
F3=US$1,297.85
F4=US$1,676.09
F5=US$1,840.08
F6=0.37
F7=0.51
F8=14.29
F9=3.09
E0=0.67
E1=0.49
E2=0.43
E3=1.60
E4=1.38
E5=1.68

A1	C1	D9	1	2	3	4	5	6
A2	C2	D0	–					
A3	C3	F0	-0.06	–				
A4	C4	F1	-0.12	0.20*	–			
A5	C5	F2	0.21*	0.09	0.18*	–		
A6	C6	F3	-0.16	0.40*	0.50*	0.46*	–	
A7	C7	F4	0.22*	-0.23*	-0.04	0.19*	-0.24*	–
A8	C8	F5	0.08	0.08	0.32*	0.49*	0.48*	0.73*
A9	C9	F6	0.30*	-0.43*	-0.43*	-0.28*	-0.90*	0.48*
B2	C0	F7	0.29*	-0.25*	-0.25*	-0.26*	-0.59*	0.21*
B3	D1	F8	-0.23*	0.05	0.01	0.19*	0.14	0.17*
B4	D2	F9	0.02	0.02	-0.12	0.19*	0.10	0.03
B5	D3	E0	0.08	-0.15	-0.19*	0.00	-0.32*	0.50*
B6	D4	E1	0.11	-0.16	-0.13	0.05	-0.21*	0.67*
B7	D5	E2	0.00	0.13	0.18*	0.28*	0.42*	0.19*
B8	D6	E3	0.17	-0.13	-0.02	0.02	-0.02	0.02
B9	D7	E4	0.08	0.03	-0.03	-0.03	0.00	-0.05
B0	D8	E5	0.17	-0.19	0.04	-0.09	-0.13	-0.01

Note: N = 98, p less than or equal to .05.
[supa]0 = Male, 1 = Female.

A1	7	8	9	10	11	12
A2						
A3						
A4						
A5						
A6						
A7						
A8						
A9	-0.19	-				
B2	-0.23*	0.56*	-			
B3	0.25*	-0.06	-	0.11	-	
B4	0.09	-0.08	-0.02	0.31*	-	
B5	0.24	0.39*	0.27*	0.17	0.03	-
B6	0.46*	0.36*	0.14	0.13	-0.03	0.71*
B7	0.46*	-0.38*	-0.13	0.04	0.03	-0.20*
B8	0.00	0.12	-0.02	-0.22*	-0.01	-0.09
B9	-0.05	0.07	-0.05	-0.15	-0.02	-0.06
B0	-0.11	0.17	0.14	-0.24*	-0.02	-0.09

A1	13	14	15	16	17
A2					
A3					
A4					
A5					
A6					
A7					
A8					
A9					
B2					
B3					
B4					
B5					
B6	-				
B7	-0.02	-			
B8	-0.07	-0.12	-		
B9	-0.05	-0.12	-0.84*	-	
B0	-0.11	-0.09	0.72*	0.52*	-

TABLE 2 Results of Discriminant and Overall Classification Analyses

Legend for chart:

A1=Structure Coefficients
A2=Variable
A3=Org A
A4=Org B
A5=Org C
A6=Age
A7=Education
A8=Gender
A9=Tenure
B1=Pay Sat
B2=Job Sat

B3=Per Rew Co
B4=Obj Rew Co
B5=State
B6=State Sales
B7=City
B9=Statistics
C1=R[subc]
C2=Wilk's Lambda
C3=Chi-squared
C4=p less than or equal to 0.05
C5=p less than or equal to 0.06
C6=Overall Classification
C7=Hit Rate
C8=Z[subpc]
D1=Z[sub1]
D2=Z[sub2]
D3=Z[sub3]
D4=Z[sub4]

	A1				
A2	Step 1	Step 2	Step 3	Step 4	Step 5
A3	0.40	0.40	0.39	-0.26	-0.26
A4	0.40	0.43	0.42	-0.29	-0.28
A5	0.44	0.40	0.39	-0.19	-0.19
A6		-0.12	-0.12	0.12	0.11
A7		0.42	0.42	-0.29	-0.29
A8		0.34	0.33	-0.24	-0.23
A9		0.46	0.45	-0.23	-0.23
B1			0.02	0.02	0.02
B2			0.11	-0.08	-0.08
B3				0.14	0.14
B4				0.77	0.76
B5					0.15
B6					0.12
B7					0.06
B9					
C1	0.52	0.53	0.53	0.68	0.68
C2	0.71	0.67	0.64	0.44	0.38
C3	31.64**	36.34**	40.21**	74.31**	84.00**
C4					
C6					
C7	35.71%	40.82%	51.02%	55.10%	67.35%
C8	0.51	1.58*	3.73**	4.59**	7.16**
C5					
D1	–	1.05	3.16**	4.01**	6.54**
D2	–	–	2.06**	2.88**	5.34**
D3	–	–	–	0.81	3.23**
D4	–	–	–	–	2.44**

Note: Org A, Org B, and Org C = Dummy-coded variables
for organization with organization D,
100 percent commission, serving as the referent
organization. Pay Sat = Pay satisfaction. Job
Sat = Job satisfaction. Per Rew Co = Perceived
reward contingency. Obj Rew Co = Objective
reward contingency. State = State unemployment

rate. State Sales = State sales unemployment rate. City = City unemployment rate. R[subc] = Canonical correlation. Z[subpc] = Proportional chance criterion indicating whether overall classification is significantly better than chance (Huberty, 1984). Z[sub1] to Z[sub4] test the significance of the incremental overall classification accuracy compared to steps 1 to 4 of the analysis.

*p < 0.06
**p < 0.05

TABLE 3 Separate Group Hit Rates

Legend for chart:

A1=Predicted Group
A2=Actual
A3=group
A4=Step 1
A5=PPL
A6=GPL
A7=PPS
A8=GPS
B1=Step 2
B2=PPL
B3=GPL
B4=PPS
B5=GPS
B7=Step 3
B8=PPL
B9=GPL
C2=PPS
C3=GPS
C4=Step 4
C5=Step 5

A2	A1			
	PPL (n = 10)	GPL (n = 14)	PPS (n = 28)	GPS (n = 46)
A3	(e = 1.02)	(e = 2)	(e = 8)	(e = 21.59)
A4				
A5	0	0	0	10
A6	0	0	2	12
A7	0	12	10	6
A8	0	13	8	25
B1				
B2	10	0	0	0
B3	10	2	2	0
B4	6	0	14	8
B5	21	2	9	14
B7				
B8	9	0	0	1
B9	7	2	1	4
C2	3	0	11	14
C3	10	2	6	28
C4				
A5	6	1	0	3
A6	4	3	1	6

A7	4	0	18	6
A8	11	2	5	28

C5
A5	6	1	0	3
A6	1	9	1	3
A7	2	1	18	7
A8	5	4	4	33

A2

A3	Z[subpc]	Z[sub1]	Z[sub2]	Z[sub3]	Z[sub4]
A4					
A5	n.s.	–	–	–	–
A6	n.s.	–	–	–	–
A7	0.84	–	–	–	–
A8	1.01	–	–	–	–
B1					
B2	9.38**	9.38[supa]	–	–	–
B3	0.00	0.00[supa]	–	–	–
B4	2.51**	1.58*	–	–	–
B5	-2.24	-3.26	–	–	–
B7					
B8	8.34**	8.34[supa]	n.s.[supb]	–	–
B9	0.00	0.00[supa]	0.00	–	–
C2	1.25	0.39	-1.13	–	–
C3	1.89**	0.89	4.49**	–	–
C4					
A5	5.20**	5.20[supa]	n.S.[supb]	-3.16	–
A6	0.76	0.76[supa]	0.76	0.76	–
A7	4.18**	3.16**	1.51 *	2.71**	–
A8	1.89**	0.89	4.49**	0.00	–
C5					
A5	5.20**	5.20[supa]	n.s.[supb]	-3.16	0.00
A6	5.35**	5.35[supa]	5.35**	5.35**	3.91**
A7	4.18**	3.16**	1.51*	2.71**	0.00
A8	3.37**	2.37**	6.09**	1.51*	1.51*

Notes: PPL = Poor performing leavers. GPL = Good performing leavers. PPS = Poor performing stayers. GPS = Good performing stayers. Z[subpc] = Proportional chance criterion indicating whether group classification is significantly better than chance (Huberty, 1984). Z[sub1] to Z[sub4] test the significance of the incremental group classification accuracy compared to steps 1 to 4 of the analysis. n = Group sample size. e = The number of correct classifications expected in each group on the basis of chance alone. Step 1 = Dummy-coded organization variables. Step 2 = Step 1 + age, education, gender, and tenure. Step 3 = Step 2 + pay satisfaction and job satisfaction. Step 4 = Step 3 + objective reward contingency and perceived reward contingency. Step 5 = Step 4 + state unemployment, state sales unemployment, and city unemployment.
*p less than or equal to .07
**p less than or equal to .05

```
[supa]Because classification accuracy was 0 percent for PPL and
GPL in step 1, division by zero occurs when computing Z[sub1]
for these groups. Therefore,
the proportional chance criterion was substituted for Z[sub1].
[supb]Because classification accuracy was 100 percent for PPL
in step 2, division by zero occurs when calculating Z[sub2] for
this group. However, Z[sub2] is
reported as n.s. because of the decrease in classification hit
rate for PPL in subsequent steps of the analysis.
```

DIAGRAM: Figure 1. Functional Turnover and Retention Note: This Figure has been Adapted from Griffeth, Phillips, Hom, and Steel (1990).

DIAGRAM: Figure 2. Reward Contingency Model of Functional Turnover

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