

When Friends Leave: A Structural Analysis of the Relationship between Turnover and Stayers' Attitudes

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It is argued in this paper that macro and micro perspectives can each benefit from the other. To demonstrate this, a current research issue in micro organizational behavior is analyzed with the help of theories in psychology, social psychology, and sociology. The specific question is: What effect does turnover in an organization have on the attitudes of those who remain in the organization? A longitudinal investigation of three fast-food restaurants explored this relationship against the background of the social network structures in each site. Among the findings was that the closer the employee was to those who left, the more satisfied and committed he or she became. The results underscore the importance of the structural context in studying micro phenomena, while at the same time they demonstrate the richness of micro theory in understanding why these phenomena occur.*

One of the fundamental dilemmas facing those studying organizational phenomena is that all such phenomena are simultaneously micro and macro. That is, individual actors behave in organizations in ways that are influenced by the larger context in which they find themselves. The dilemma stems from the difficulty of keeping the importance of both of these perspectives in focus. We have a tendency to focus on one arena or the other, perhaps because of our training (as psychologists or sociologists, for example).

This propensity to focus narrowly survives despite admonitions from many scholars in the field. Probably the most famous of these is Lewin's familiar dictum about behavior being a function of the person and the environment (Lewin, 1966: 166). He translated this axiom into a force-field theory of cognitions and behavior that became a cornerstone of social psychology. The study of the micro side of organizations has certainly benefited from the stream of research that has resulted (e.g., Salancik and Pfeffer, 1978; Staw, 1980b). But the original emphasis that Lewin placed on the larger social context has been missing in such work.

At the macro level, a few organizational sociologists have introduced some psychology into their models. Notable among these is Burt (1982), who incorporated the work of the psychologist Stevens (1962) into his theory of action. The contribution that psychology makes to his understanding of behavior, however, is minor: Burt restricts himself to rational and purposive action within the structure surrounding the actor.

Thus, on the one hand, organizational psychology and social psychology have explored individuals' values, beliefs, perceptions, and motives, which can lead to their observed behavior. On the other hand, organizational sociology has focused on the structural constraints to such behavior. The purpose of this paper is to demonstrate that the combination of both orientations can lead to new insights into organizational phenomena. This demonstration employs a distinctly macro, structural lens to look at a current micro organizational research question — the effect that turnover has on the attitudes of those who remain. The result confirms the power of structural constraints, but at the same time it retains the richness of the psychological explanations.

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Turnover and the Psychology of Stayers: A Micro Perspective

The field of organizational behavior is witnessing a miniparadigmatic shift in the study of turnover (Dalton and Todor, 1979). Instead of looking for causes of turnover, as is traditionally done, a handful of researchers (e.g., Staw, 1980a; Steers and Mowday, 1981; Mobley 1982) maintain the question should be asked: "What effect does turnover have on people who stay in the organization?"

It has been suggested that this is not a simple question. Mowday, Porter, and Steers (1982) argued that there are both positive and negative consequences for stayers when a co-worker leaves. On the positive side, turnover creates internal promotion opportunities for those who remain (Dalton and Todor, 1979; Staw, 1980a). Another positive outcome stems from the potentially dissonant situation employees face when their coworkers leave. Mowday (1981) predicted that one way employees can resolve this dissonance is to increase their satisfaction with the job and organization to justify their own decision to stay. An additional benefit may arise if those who left were not carrying their weight in the workload (Dalton and Todor, 1979). One study found that many of the turnovers among bank tellers were those of poor performers (Dalton, Krackhardt, and Porter, 1981). Mowday, Porter, and Steers (1982) suggested that stayers in such situations will benefit and presumably be more satisfied with their jobs.

Conversely, the turnover could leave behind more discouraged, less satisfied coworkers. Each of the reasons for positive consequences mentioned above could be turned around to predict negative consequences. For example, Mowday, Porter, and Steers (1982) noted that the termination of a coworker could require more work of those who remain to make up for the work not being accomplished by the person who left. This would be particularly true if the person who left was a valued employee.

Clearly, one cannot easily predict universally the effects of turnover on the attitudes of stayers. At this stage of development, more empirical work is needed to stabilize any such predictions. One study, that of Mowday's (1981) work on government agencies, provides a starting point for building such a stable set of predictions. He questioned 540 employees in seven agencies of state and county governments in a midwestern state and found that those who were most committed and satisfied with their jobs were more likely to attribute the dominant cause of the coworkers' departures to reasons other than job dissatisfaction.

As Mowday (1981) noted, it was difficult to isolate the cognitive process behind these attributions. For example, an explanation of these results could lie in the nature of the work setting each of the respondents faced. Those who were in work groups where the work was satisfying could be realistic in their perceptions that coworkers were leaving for reasons other than dissatisfaction; those who were in jobs that were less desirable may have equally realistically perceived coworkers leaving for reasons of dissatisfaction. Thus, the observed relationship between attitudes and perceived reasons for turnover could be spurious. To control for spurious-

ness it is necessary to observe several people's reactions to the identical turnover event.

Mowday's work also pulls together two of the most frequently studied psychological variables in turnover research: job satisfaction and organizational commitment. While based on distinct concepts, they are frequently correlated with each other and with turnover (Mowday, Porter, and Steers, 1982).

Perhaps the most important distinction between them can be inferred from their definitions. Job satisfaction focuses on the daily experience and nature of the workplace and work activities. The focus of commitment, on the other hand, is on the organization as a whole, on its goals and values (Angle and Perry, 1981). It is often reflected in the employee's desire to remain a member of the organization, in spite of any specific job to which he or she might be assigned (Porter et al., 1974; Mowday, Steers, and Porter, 1979).

Many of the processes described earlier can lead to changes in either job satisfaction or commitment, depending on the focus of the meaning that the observer gives to the turnover event. For example, if coworkers leave because they dislike the kind of work they are doing, this may remind the stayer of how dissatisfying his or her work is. On the other hand, if the stayer believes that organizational policies are responsible for the miserable lot that the leaver has just escaped, then the stayer's commitment to the organization may also suffer.

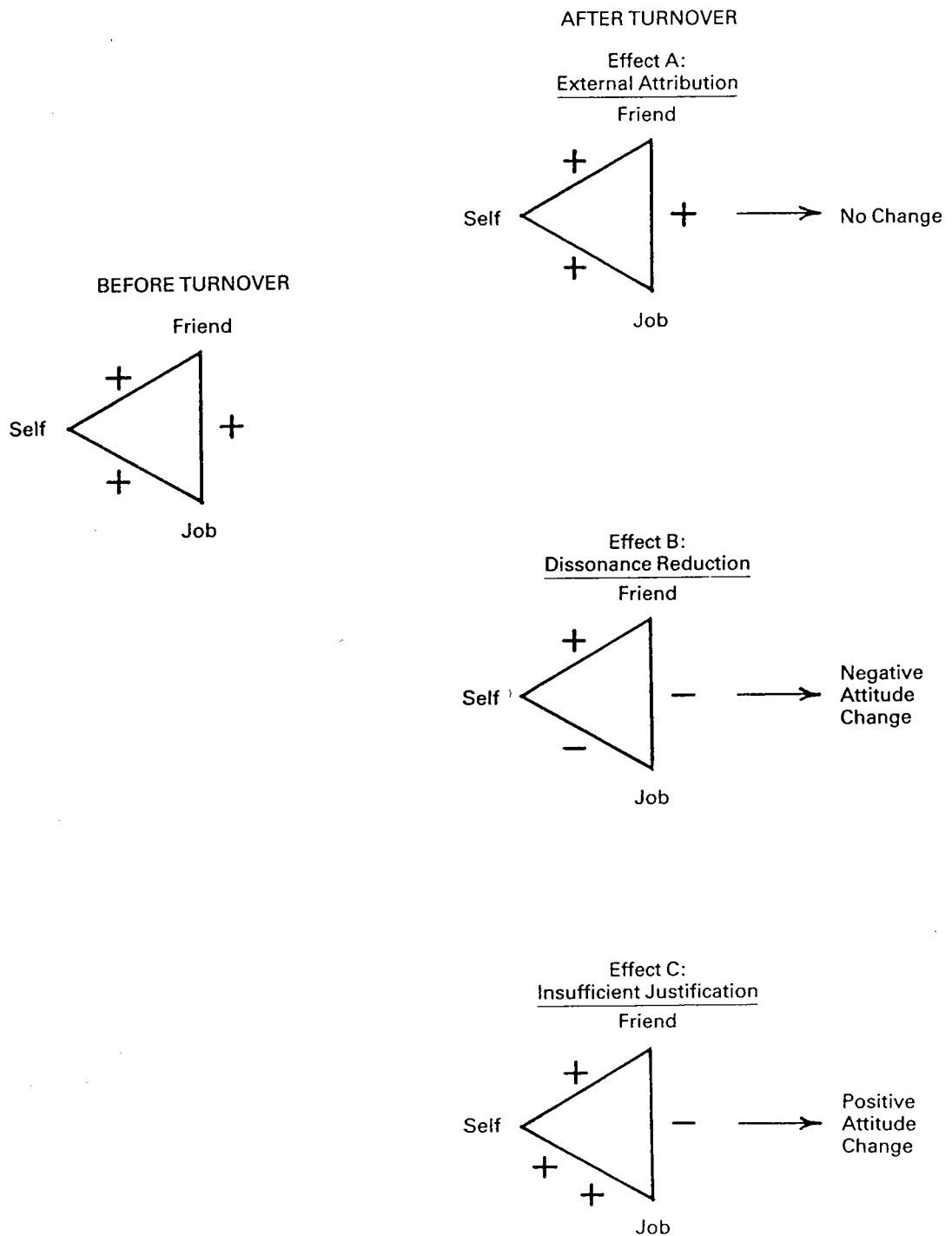
Turnover in Friendship Dyads: A Social Psychological Perspective

Since it is so difficult to predict negative vs. positive consequences, Mowday, Porter, and Steers (1982) provided a set of moderating variables. One of these, the social relationship the stayer has to the leaver, they stated may be critical: When the person leaving is a close friend, the effect on the stayer "may be particularly traumatic" (p. 148).

But Mowday, Porter, and Steers (1982) did not offer specific predictions as to how the close friendship might affect the attitudes of stayers. However, the literature on friendships does provide some guidelines. Perhaps the most useful model to organize the possible outcomes is Heider's (1958) balance theory. In this model, a triangle of relationships is described between an observer (self), another person, and an object of common interest. In this case, the observer (stayer) is faced with a coworker (who is a friend) and the job (Figure 1). For the purpose of exposition, it is assumed that the link between each pair of vertices is positive prior to the departure of the coworker. That is, the triangle is balanced: The observer has positive affect for the job, the observer has positive affect for the coworker, and the coworker has positive affect toward the job.

How this triangle might change (or not change) as a result of the termination of the coworker is depicted in Figure 1 (Effects A, B, and C). In each of these predictions, it is assumed that positive attitudes held toward the friends remain, or at least do not become negative. This assumption is supported in friendship studies, where such links are generally stable over long periods of time (e.g., Newcomb et al., 1967).

Figure 1. Possible effects of turnover of friend on stayer.



The first prediction is that no change in attitude toward the job would occur. This could happen if the employee attributed exogenous reasons to the friend's departure (Effect A). In this way, an attribution of job satisfaction to the friend can be maintained in the face of the friend's leaving (e.g., "My friend liked the job, but she had to leave because of school"). Mowday (1981) proposed a similar argument to explain his results, referring to such external attributions as the "pull" forces of turnover.

When Friends Leave

Effect B in Figure 1 depicts the possibility of a negative change in attitude resulting from a friend's leaving. In this scenario, the employee attributes dissatisfaction to the friend who left. This creates dissonance, which is resolved in the triangle by the stayer becoming more dissatisfied with his or her job.

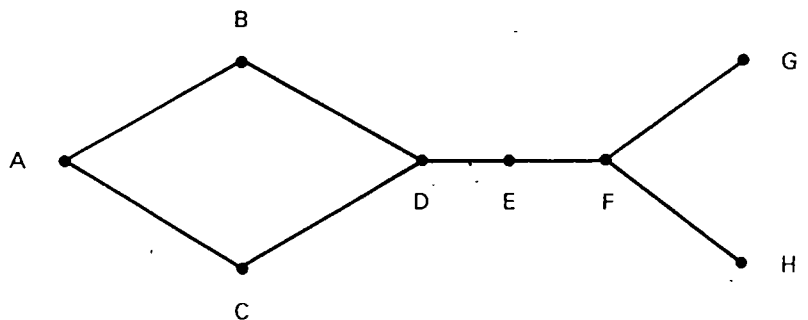
Effect C represents a possibility not predicted directly from balance theory but that has some support in dissonance studies. If the person observes a coworker leaving and attributes dissatisfaction to the leaver, then the person's decision to stay may require more justification (Staw, 1976; 1980b). One way this justification could occur is for the stayer to develop more and stronger positive attitudes toward the workplace.

Turnover Embedded in Network Structures

These scenarios represent the possibilities at the micro level between two people and their job. However, the workplace is seldom restricted to two people in their organization. Instead, each of N employees must balance $N-1$ such triangles in his or her head. Few probably actually do so, but it is likely that such forces on a person's psychology are to some extent additive, at least figuratively. That is, if many of a person's friends leave, then the effects described in Figure 1 are likely to be stronger than if only one friend leaves. Moreover, the closer the friends are to the person, the stronger the effect is likely to be. Viewed from a more macro perspective, this phenomenon dictates that effects of turnover on stayers will not be uniformly nor randomly distributed among the stayers in the organization. Rather, these effects will be localized and focused on those stayers who are closest to those who left. The social network, then, describes the topology of forces that reverberate throughout an organization when someone leaves (Lewin, 1966; Burt, 1977).

The friendship network in Figure 2 illustrates this proposed effect. Each letter represents an employee; a line connecting two employees indicates that the two employees are friends. Thus, A is a friend of B and C but not a friend of the remaining employees (D through H). If A were to leave, it is proposed that B and C would be most strongly affected.

Figure 2. Hypothetical friendship network.



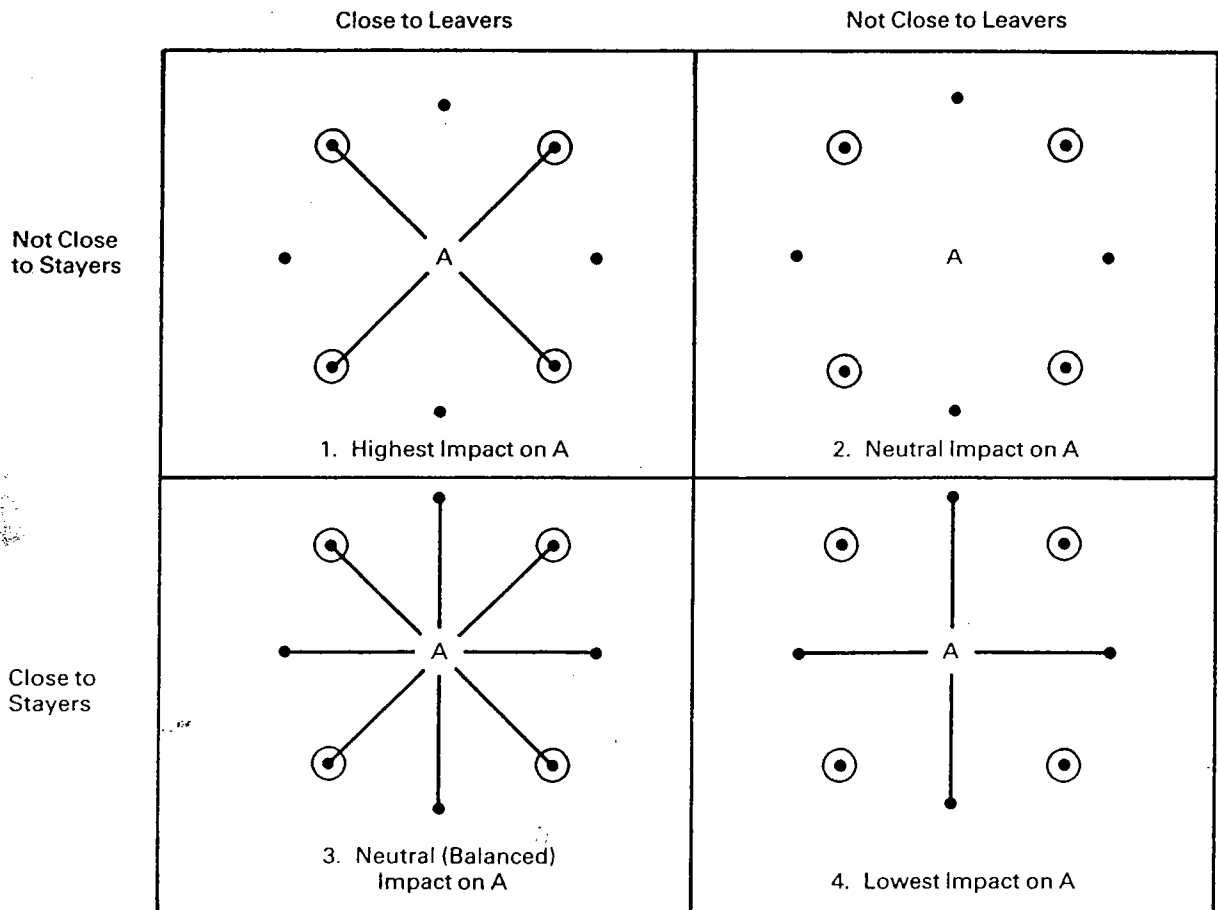
A person who is not a friend but is seen as a friend of a friend is more apt to have more influence than someone who is not seen as a friend of a friend. By extension, one is more affected by a friend of a friend of a friend than by someone further out in the friendship chain. Thus, it is proposed that A's termination

would affect D more than E and that H and G would be least affected.

Another contextual effect must be considered when moving from simple dyads to the entire network. An individual is influenced by those who stay as well as by those who leave. That is, in Figure 1, if the person's friend does not leave, then the triangle in "Before Turnover" is reinforced. If many of the coworkers who remain are friends and only one friend leaves, then the impact that this termination will have on the individual will be attenuated.

This balancing effect of leavers vs. stayers is depicted in Figure 3. Four extreme scenarios are represented. In each case, person A has eight coworkers, four of whom leave. Scenario 1 (in the upper left corner of Figure 3) predicts the maximum impact on person A of the four turnovers. That is, since A is close to all four leavers and not close to any of the four stayers, then whatever impact the turnover will have would be relatively large. At the other extreme (scenario 4), when A is close to the stayers and not close to the leavers, then the impact of the turnovers would be least. Scenarios 2 and 3 represent two

Figure 3. Four extreme scenarios depicting various degrees of impact from leavers.



Circled dots represent Leavers.
 Uncircled dots represent Stayers.
 A line connecting a dot (coworker) to A indicates that A perceives the coworker to be a close friend.

more moderate effects; however, they represent moderate positions for different reasons. In scenario 2, the impact is neutral because each of the actors is not connected (either directly or indirectly) to A; thus, there is little impact from either stayers or leavers. In scenario 3, the relatively strong impact of those who left is balanced by the impact of an equal number of coworkers who stayed.

To be consistent with the psychological foundation of the thesis of this paper, however, we must make one final modification to the above structural arguments. This modification is based on W. I. Thomas' maxim, "If men define situations as real they are real in their consequences" (in Volkart, 1951: 81). Person A's leaving will affect person B, assuming that person B *perceives* that person A is a friend. The effect is attenuated if person B perceives that person A is only a friend of a friend, and so on. For example, in Figure 2, if person D does not perceive person A to be a friend of B or C, and thus person C sees no connection at all between self and A, then the effect of A leaving will not be felt by D, even though in "reality" A is connected indirectly to D.

Burt (1982) recognized the importance of actors' perceptions of networks as the true constraints to their behaviors. The problem arises when one tries to measure such perceptions. Burt's solution was an interesting one. He borrowed from Steven's (1971) law of psychophysics that an individual's perception of stimuli is a direct power function of the actual "objective" stimuli. In Burt's (1982: 174–175) model, the exponent of the power function becomes a parameter to be estimated from the data. To our knowledge, his is the only attempt to deal with this problem in a social network context. The psychologist's first criticism of this approach would be that the assumptions underlying the power function are tenuous at best. Such perceptions, the psychologist would continue, should be measured directly, if at all possible. However the measurement issue is resolved, we argue that the predictions outlined for Figure 1 will be heavily moderated by the perceived social structure of the actors. Specifically, the effect of turnover on coworkers will depend, it is hypothesized, on how close in the friendship network the leaver was to the stayer as *perceived by the stayer*.

The purpose of this study was to explore the issues proposed by these models. A structural perspective dictates that before making individual predictions about the effects of turnover, we consider the entire context as defined by the perceived social network. To explore this contextual effect, we examined the relationship between turnover and subsequent organizational attitudes of those who remain and, in particular, how this relationship is moderated by the perceived position of leavers in the friendship network.

METHODS

Sample

The sites for this study were three fast-food restaurants located in three different suburban areas. Fast-food restaurants were selected because of their history of high turnover (typically 200–400 percent annually). Three-fourths of the employees in the sample were under the age of 18, with tenure averaging

less than seven months in each site. No significant differences existed among employees at the three sites in tenure, age, or sex. Sites did vary somewhat in size: 16 employees in Site A, 27 in Site B, and 20 in Site C.

Most of the employees were high school students working part time (at least 20 hours per week). Social relationships were important to these people. Frequently, during the course of this study, we saw employees return to the restaurant during their off-hours to socialize with both on-duty and off-duty coworkers. Few of them depended on this income for a living, and thus they were not trapped financially into keeping the job.

Overall Design

A pre-post natural quasi-experimental design was used to study this phenomenon. At Time 1, a questionnaire was administered that included network questions and attitude items. One month later, at Time 2, a second questionnaire with the attitude items was administered. The major treatment variable, turnover, was recorded during the interval between Time 1 and Time 2 at each of the sites. Using this design, we could determine the relationship each respondent had to each of the coworkers who left, and we could assess the degree of change in stayers' attitudes subsequent to the turnover of their coworkers.

The questionnaires were administered individually by the researchers to each employee. He or she was asked to complete it at home, seal it in the envelope provided, and bring it to work the next day, when the researchers would collect them. Since network questionnaires of this type cannot be anonymous, care was taken to assure the respondent that his or her participation was voluntary and that all responses would be kept in strict confidence.

Measures

Network data require nonstandard analytical methods (Alba, 1982). Even among scholars who use network analysis, there is disagreement as to what techniques or transformations are appropriate (Knoke and Kuklinski, 1982). While attempting to resolve these controversies is beyond the scope of most empirical papers, it is important that researchers be clear about how they analyzed their data. Therefore, care was taken below to describe precisely the operationalizations and transformations undertaken in the analysis presented here.

Operationalization of the Independent Variable

As mentioned previously, a strong argument can be made that it is the *perception* of the network that influences an individual's behavior and attitudes, not the actual set of network links (Burt, 1982). To date, no study of organizational networks has directly measured such perceived structures. The reason for this is simple: it is a formidable task, since the length of the questionnaire would increase linearly with the square of the size of the organization. The task is manageable, however, with organizations the size of the restaurants used in this study. Given the important role that perceptions play in the proposed model, we devised the following method for

assessing directly each employee's perceived network in the restaurant.

In the first questionnaire, each person in the workgroup was asked to record who they perceived to be a friend of whom. While simple on the surface, this substantial task required that employees consider all possible pairs of friends in the restaurant. To accomplish this, the respondent was told to check the names of all those listed whom he or she thought would be considered a friend by employee #1 (for example, "Henry"). Then, the same list was repeated on the next page, and the respondent was asked to check all names of those whom he or she thought would be considered a friend of employee #2 ("Rita"). This process was repeated a total of N times (for N employees). In this way, we could assess each person's perception of everyone's friends, their own as well as their coworkers'. These data allowed us to construct, for example, Henry's perception of the entire network in the group, Rita's perception of this network, and so on.

These friendship links were combined with subsequent turnover data to create the independent variable in this study, hereafter referred to as the IMPACT index. The assumption behind this index is that those who leave differentially affect those who stay. This variable is a summary indication of how much potential influence there is on an individual stayer from friends who terminated, relative to those friends who stayed (see Figures 2 and 3).

The first step in calculating this index was to determine perceived distance between pairs of coworkers. Let k represent the respondent who filled out the questionnaire, and i and j represent any pair of coworkers not including k . Let $F_k(i, j) = 1$ if k perceived that i and j are friends and $F_k(i, k) = 0$ otherwise. Each $F_k(i, j)$ matrix is transformed into a distance matrix ($FD_k[i, j]$), representing k 's perception of how distant in the friendship chain i was to j . Finally, each element of the matrix was then inverted. Thus, for example, a score of 1 indicated that k perceived i and j to be friends; a score of $1/2$ indicated that k perceived i and j to be a distance of two from one another (such as A and D are in Figure 2), and so on.

From this matrix, only one vector is of immediate interest in calculating IMPACT: the vector where $i = k$. That is, the question is how close in the perceived friendship network does the respondent perceive him or herself to be to each other coworker. This vector (denoted $FD_k[j]$) is multiplied by the transpose of the turnover vector ($T[j]$, where $T[j] = 1$ if coworker j left and $= -1$ otherwise). The resultant scaler is what is termed IMPACT for individual k :

$$\text{IMPACT}_k = \sum_{j=1}^N [FD_k^{-1}(j) \times T(j)], \quad (1)$$

for all j not = k ; where

IMPACT_k = the potential influence of the leavers relative to the stayers

$FD_k^{-1}(j)$ = person k 's perceived friendship closeness to coworker j (closeness = $1/\text{distance}$)

$T(j)$ = turnover of coworker j ($= 1$ if j left; $= -1$ if j stayed)

Operationalization of the Dependent Variables

Organizational commitment. The Organizational Commitment Questionnaire (OCQ), developed by Porter and his colleagues (Mowday, Steers, and Porter, 1979), was used. The OCQ, a composite of fifteen Likert-scale items, is a standardized instrument that assesses the degree to which the employee is committed to the firm for which he or she works. It has been shown to predict turnover reliably and consistently (Mowday, Steers, and Porter, 1979).

Relative job satisfaction (self). One section of the questionnaire assessed perceptions of how satisfied employees were. The respondent was instructed to place beside each individual's name a number that indicated the relative amount of job satisfaction that individual had (e.g., a "1" beside the most satisfied coworker, a "2" beside the next most satisfied, etc.). Where the respondent placed him or herself in this ranking provided an indication of his or her satisfaction relative to the other coworkers. This self-ranking score was then transformed into a percentile by reverse scoring and normalizing:

$$\text{Sat}(\text{self}) = 100 - [R(s)/N \times 100], \quad (2)$$

where $R(s)$ = the self-ranking of job satisfaction, and N = the number of stayers (including self) in the ranking.

These scores ranged from a low of 0 (indicating the individual considered him or herself to be the least satisfied person in the group) to an asymptotic high of 100 (indicating the individual considered him or herself to be the most satisfied person in the group).

A vector of rankings of others' satisfaction (i.e., attributed satisfaction) was created by assigning the rank value attributed to each coworker by each respondent as follows:

$$\text{AttrSat}_k(j) = 100 - [(R_k(j) / N) \times 100], \quad (3)$$

where $\text{AttrSat}_k(j)$ = the vector of satisfaction scores attributed by k to the set of coworker js ; N = the number of people ranked by k ; and $R_k(j)$ = the vector of raw data of k 's rankings of j 's satisfaction.

It should be noted that the list of people in the ranking of Time 2 included those who had already left. Instructions in this section explicitly asked the respondent to include these people in the ranking. In assigning a rank to those people who had already left, the respondent was to recall "how satisfied they were just before they left this job."

The Coworker-Job Link: Attribution of Dissatisfaction to Those Who Leave

A rank-order correlation was used (Goodman and Kruskal's gamma) to assess the degree to which individuals attributed relatively more dissatisfaction to those who left than they did to those who stayed. This comparison was done within individuals. That is, each respondent received a score equal to his or her gamma, indicating his or her association between coworkers leaving and the relative job satisfaction he or she attributed to those coworkers. These gammas were then averaged for each group.

The Self-Job Link: Effects on Stayers' Attitudes

In Figure 1, three different predictions were made about the effect that turnover of friends might have, on balance, on those who remain. Each prediction was based on a different model of the stayer's reactions to his or her friends leaving. Since any of three alternative results was predicted (no change, positive change, negative change), two-tailed tests were used to evaluate the significance of the relationship observed in these links.

Overall correlations were calculated based on the pooling of the information from all three sites, rather than the simple averaging of the three individual correlations (cf. Hunter, Schmidt, and Jackson, 1982), for two reasons. First, the dependent variables — organizational commitment and satisfaction — were all normalized for group size and may be considered continuous variables. The second and more important reason that the data were pooled is that the independent variable, IMPACT, is theoretically meaningful in its absolute form. If a clique of close-knit friends exists and all members but one leave the clique, the effect on the remaining group member should be most pronounced, even in comparison with employees in other work groups. To average the three within-site correlations would destroy this information.

Measurement Properties

The Organizational Commitment Questionnaire ranged in reliability (Cronbach's alpha) from .84 to .90 across the three sites in both administrations. In addition, both the job satisfaction (self-ranked) measure and the OCQ at Time 1 predicted subsequent turnover. Correlations with turnover ranged for the three sites from $-.16$ to $-.52$ for the two measures. Thus, these instruments displayed both reliability and predictive validity properties that were acceptable and consistent with prior assessments of similar measures (Mowday, Steers, and Porter, 1979; Mobley, 1982).

Turnover during the one-month study period averaged 25 percent for the three sites (range: 20–38 percent), with no significant differences among sites (chi square = 1.68, degrees of freedom = 2). The response rates at both Time 1 and Time 2 averaged 83 percent (range: 71–100 percent), again with no significant differences among sites (chi square = 1.33 and 4.497, respectively, for Time 1 and 2; degrees of freedom = 2).

RESULTS

Attribution of Dissatisfaction

The results (Table 1) indicate that people do attribute more dissatisfaction to those who leave. The overall gamma indicates that stayers rank those people who left lower in satisfaction after they leave (gamma = $-.18$). The lack of a particularly strong relationship is explainable by referring to the first two columns of Table 1. It is clear that at Time 1 employees were able to predict who was dissatisfied enough to leave (average gamma = $-.24$). At Time 2, this predictability was somewhat stronger (average gamma = $-.36$). That is, employees were attributing dissatisfaction to those who left; however, the change in dissatisfaction ratings was attenuated by the fact that by Time 1 they already had been able to anticipate who

would leave. (While the significance of these scores could be tested, this would be inappropriate, since the errors are not independent in this case [cf., Box, Hunter, and Hunter, 1978: 78-82]; therefore, the data are provided for descriptive purposes only.)

Table 1

Associations within Individuals between Turnover of Others and Attributed Job Satisfaction			
Sample	Attributed satisfaction T ₁	Attributed satisfaction T ₂	Δ Attributed satisfaction
Group A (N=16)	$\bar{\gamma} = -.38$ N = 13 SD = .201	$\bar{\gamma} = -.45$ N = 8 SD = .290	$\bar{\gamma} = -.21$ N = 8 SD = .317
Group B (N=27)	$\bar{\gamma} = -.34$ N = 23 SD = .392	$\bar{\gamma} = -.51$ N = 15 SD = .365	$\bar{\gamma} = -.18$ N = 15 SD = .364
Group C (N=20)	$\bar{\gamma} = .01$ N = 17 SD = .282	$\bar{\gamma} = -.10$ N = 12 SD = .363	$\bar{\gamma} = -.15$ N = 12 SD = .365
Weighted average association	$\bar{\gamma} = -.24$ SD = .310	$\bar{\gamma} = -.36$ SD = .347	$\bar{\gamma} = -.18$ SD = .354

Friendship distance and organizational commitment.

IMPACT was a summary index of the relative closeness of the individual to those who left. A relationship between this index and organizational commitment would indicate that commitment was differentially affected by leavers depending on how close the leavers, relative to stayers, were perceived to be to the employee.¹ As with attributed satisfaction, reported above, the relationship between IMPACT and commitment is shown for Time 1, Time 2, and changes between Time 1 and Time 2 in Table 2. The changes in commitment were inconsistently related to IMPACT, as is evident from the last column in Table

Table 2

Correlation of IMPACT with Organizational Commitment			
Sample	at T ₁	at T ₂	Δ (T ₂ - T ₁)
Group A:	r = .21 N = 8 p = NS	r = .35 N = 8 p = NS	r = .34 N = 8 p = NS
Group B:	r = .49 N = 21 p < .05	r = .16 N = 15 p = NS	r = -.17 N = 15 p = NS
Group C:	r = .41 N = 13 p = NS	r = .39 N = 12 p = NS	r = .00 N = 12 p = NS
Combined:	r = .51 N = 42 p < .001	r = .34 N = 32 p < .05	r = -.04 N = 35 p = NS

Note: Probability levels are all based on two-tailed tests.

1 Another approach to defining and assessing IMPACT is to use the more traditional measure of network distance (Burt, 1982). This approach would not rely on a person's perception of the entire network but, rather, would be an aggregation of individual local perceptions of to whom individuals are directly tied (see Krackhardt, 1985, for a fuller discussion of this issue). In fact, the correlations in Tables 2 and 3 were also calculated using FD, as defined in the traditional way; the results were similar to those reported in the tables. We chose to report the perceived network results here for two reasons. First, a series of studies has called into question the interpretability of local-aggregated networks (Bernard et al., 1984). They have found that such traditional measures do not adequately represent the "real" (behavioral) network. Second, and more importantly, the theory articulated here is based on perceptions. It is argued that the individual's experience of the network is influencing him or her. By using the perceived networks, we more directly assess this part of the theory.

2. In Group A, the correlation was moderate (.34), though it was insignificant. Groups B and C showed weaker correlations. The combined correlation was practically zero.

On the other hand, the correlations between IMPACT and commitment at Time 1 and Time 2 were significant and relatively strong (.51 and .34). Thus, commitment does seem to be related to the degree to which friends leave. The direction of this relationship is particularly interesting: the closer in friendship distance the leavers were to the respondent, the higher the degree of respondent commitment, both at Time 1 and Time 2. It is difficult to ascertain a causal direction in this relationship, however, since the change in commitment scores was negligible.

Friendship distance and job satisfaction. It was predicted that the turnover of close friends would result in differential satisfaction in stayers. In other words, IMPACT would be related to the change in satisfaction. As can be seen in Table 3, in each of the three groups a positive correlation existed between IMPACT and the change in self-ranked satisfaction (although none reaches significance because of small *N* sizes). The overall relationship is .38 and is significant. Thus, it would appear that when closer friends leave, the person who stays becomes even more satisfied, relative to the other stayers.

Table 3

Correlation of IMPACT with Job Satisfaction (Self-Ranking)			
Sample	at T ₁	at T ₂	Δ (T ₂ - T ₁)
Group A:	<i>r</i> = .32 <i>N</i> = 8 <i>p</i> = NS	<i>r</i> = .34 <i>N</i> = 8 <i>p</i> = NS	<i>r</i> = .02 <i>N</i> = 8 <i>p</i> = NS
Group B:	<i>r</i> = .08 <i>N</i> = 21 <i>p</i> = NS	<i>r</i> = .36 <i>N</i> = 15 <i>p</i> = NS	<i>r</i> = .40 <i>N</i> = 15 <i>p</i> = NS
Group C:	<i>r</i> = .04 <i>N</i> = 13 <i>p</i> = NS	<i>r</i> = .42 <i>N</i> = 11 <i>p</i> = NS	<i>r</i> = .50 <i>N</i> = 11 <i>p</i> = NS
Combined:	<i>r</i> = .11 <i>N</i> = 42 <i>p</i> = NS	<i>r</i> = .35 <i>N</i> = 34 <i>p</i> < .05	<i>r</i> = .38 <i>N</i> = 34 <i>p</i> < .05

Note: Probability levels are all based on two-tailed tests.

The relationship at Time 2 between satisfaction and IMPACT is also positive (.35). At Time 1, the relationship is even weaker (.11) and not significant. Since the change in satisfaction is more strongly correlated with IMPACT than satisfaction at either Time 1 or Time 2, it would appear plausible that the turnover of friends may contribute to the job satisfaction of stayers.

The Role of Attributed Satisfaction

Our primary concern here was to assess the net effect turnover had on those who remained. To this end, we presented the relationship between job attitudes and IMPACT, a summary index representing the effects illustrated in Figures 2 and

3. Thus far, we have ignored in this analysis the role of attributed satisfaction. The following results explore more fully the extent to which attributed satisfaction moderates or explains the observed relationship between IMPACT and the dependent variables.

One question is whether the correlation between IMPACT and attitudes is spurious, due to attributed satisfaction. As shown in Table 1, attributed satisfaction is a reasonably good predictor of turnover. Thus, it is possible that IMPACT is simply a surrogate for the influence from those who were dissatisfied. To test this, hierarchical regressions were performed on the set of six dependent variables (self-ranked satisfaction and organizational commitment at Time 1, Time 2, and the change from Time 1 to Time 2) on the data combined across the three sites (Cohen and Cohen, 1983). Forced to enter at Step 1 of the regression was a new composite variable, $FD*AttrSat$, which was defined as follows:

$$FD*AttrSat(k) = \frac{\sum_{j=1}^N [FD_k^{-1}(j) \times (AttrSat_k(j) - 50)]}{N}, \quad (4)$$

where FD_k is as defined in equation (1) and $AttrSat_k$ is as defined in equation (3). $FD*AttrSat$ is similar to IMPACT except that the binary turnover component is replaced with the extent to which the attributed satisfaction of the coworker is above or below the median (50 percent). In other words, this index was strongly positive when the close coworkers were relatively satisfied; it was strongly negative when the close coworkers were relatively dissatisfied.

At Step 2 of the regression, IMPACT was added to the equation. If $FD*AttrSat$ is a source of spuriousness, then it would be significant at Step 1 of the hierarchical regression, and the addition of IMPACT would not improve the R square significantly.

Of the six hierarchical regressions, only one (where commitment at Time 1 was the dependent variable) was significant at either Step 1 or Step 2. The fact that commitment at Time 1 emerged as the most significant finding is not surprising, given

Table 4

Hierarchical Regression (Dependent Variable: Commitment at Time 1)							
Step 1:							
Independent variable	Standardized beta	<i>t</i>	<i>p</i>	Overall			
				R^2	<i>F</i>	(df)	<i>p</i>
$FD*AttrSat$.08	.52	NS	.007	.274	(1,40)	NS
Step 2:							
Independent variable	Standardized beta	<i>t</i>	<i>p</i>	Overall			
				R^2	<i>F</i>	(df)	<i>p</i>
$FD*AttrSat$.03	.18	NS	.258	6.76	(2,39)	.005
IMPACT	.50	3.63	.001				
Test of increment $\Delta R^2 = .251$		$F = 13.17$		$df = 1,39$		$p < .001$	

the results reported previously in Tables 2 and 3. The N size was larger at Time 1, reducing the standard error of the estimates in the regression. Moreover, at Time 1, self-ranked satisfaction was not related to IMPACT, whereas commitment showed a strong correlation (.51). While the pattern of coefficients was similar across all six regressions, only the significant regression is detailed here.

The results (see Table 4) indicate strong support for the IMPACT index over and above attributed satisfaction as a correlate of commitment. $FD*AttrSat$ is not significantly related to commitment at either Step 1 or 2. The amount of variance explained by adding IMPACT, however, is substantial ($\Delta R^2 = .251, p = .001$.)

A second question of interest is whether attributed satisfaction interacts with turnover to influence attitudes and whether IMPACT explains any variance over and above the satisfaction-turnover interaction. One could reasonably expect that satisfaction would moderate the effect that turnover has on stayers. We could observe this interaction by separating the attributed satisfaction of stayers from the attributed satisfaction of leavers:

$$FD*AttrSat(\text{Stayers})_k = \sum_j \{FD_k^{-1}(j) \times [AttrSat_k(j) - 50]\} / N_s \quad (5)$$

for all j who are stayers, where N_s = the number of stayers, and FD_k and $AttrSat_k$ are defined as in equations (1) and (3), respectively.

$$FD*AttrSat(\text{Leavers})_k = \sum_j \{FD_k^{-1}(j) \times [AttrSat_k(j) - 50]\} / N_l \quad (6)$$

for all j who are leavers; N_l = the number of leavers.

Again, six hierarchical regressions were performed. Step 1 forced in both these interaction variables; Step 2 added IMPACT. As in the preceding case, five of the six regressions were insignificant. Only commitment at Time 1 resulted in a significant equation.

The results for this regression are in Table 5. Again, the interaction terms for attributed satisfaction of stayers and

Table 5

Hierarchical Regression (Dependent Variable: Commitment at Time 1)

Step 1:

Independent variable	Standardized beta	t	p	Overall			
				R^2	F	(df)	p
$FD*AttrSat$ (Stayers)	.24	1.52	NS	.103	2.24	(2,39)	NS
$FD*AttrSat$ (Leavers)	-.16	-1.02	NS				

Step 2:

Independent variable	Standardized beta	t	p	Overall			
				R^2	F	(df)	p
$FD*AttrSat$ (Stayers)	.14	.99	NS	.333	6.34	(3,38)	.005
$FD*AttrSat$ (Leavers)	-.21	-1.50	NS				
IMPACT	.49	3.62	.001				

Test of increment

$\Delta R^2 = .231$

$F = 11.73$

df = 1,38

$p < .001$

leavers were not significant in Step 1 or 2. With the addition of IMPACT at Step 2, however, the regression became significant, and the increment in explained variance was also significant ($\Delta R^2 = .231, p = .001$).

Attributed satisfaction thus added little to our ability to understand the process that enables IMPACT to predict attitudes. This may be due in part to the small sample size, which results in unstable regression coefficients. New research is needed to explore this relationship further.

DISCUSSION

It appears that the insufficient justification model in Figure 1 received the strongest support from the data. In general, dissatisfaction was attributed to those who left. This suggests that external attributions, if there were any, were not strong enough to justify the coworker's departure. Thus the model of Effect A depicted in Figure 1 is not supported. Effect B in Figure 1, while predicting correctly the attributed negative link between coworker and job, was incorrect in its prediction of the subsequent dissatisfaction of the stayer. Effect C correctly identified both the negative link between coworker and job and the positive subsequent change in stayers' attitudes.

It is worth noting that the two dependent variables, organizational commitment and job satisfaction, did not respond in identical patterns. While commitment was correlated with IMPACT at Time 1 and Time 2, the change in commitment was not. It is reasonable to expect this, given the strength of the correlation at Time 1. If the employee knows that a close coworker is about to leave, and at the same time knows that he himself or she herself is going to stay, then the insufficient justification process proposed earlier is likely to be operating at Time 1. Given this, one would expect that little change would be observed.

This anticipatory effect does not explain the satisfaction pattern. Correlations with the change in satisfaction subsequent to the turnover of coworkers indicate that employees were affected by the turnover itself. If the insufficient justification was enough to force stayers to be positively disposed toward the organization at Time 1, why did not the same forces work to improve their satisfaction at Time 1, also? There are two possible explanations of this inconsistency, one based on methods, the second based on theory.

The inconsistency may be a result of the satisfaction measures, which are partially ipsative (Smith, 1967). That is, they measure satisfaction only in a relative sense. Consequently, an increase in a satisfaction score could result from a person becoming more satisfied or from a person perceiving that others are less satisfied. This makes the interpretation of these change scores somewhat tentative as compared, for example, to Likert scales. In contrast, the Organizational Commitment Questionnaire is a standardized instrument whose psychometric properties are well established (Mowday, Steers, and Porter, 1979). The OCQ score provides an absolute indication of commitment. As such, increases or decreases in commitment are readily interpretable.

The problem lies not in the advantages or disadvantages of either ipsative or nonipsative scales (cf. Smith, 1967; Kerlinger, 1973). Rather, of concern here is that the difference in results between the satisfaction and commitment measures could be partly a function of how they were measured. While this is a possibility, it should be remembered that the results in Table 3 are based on correlation, not on absolute differences. The fact that IMPACT is positively related to satisfaction at Time 2 can be interpreted as meaning that those with high IMPACT scores reported themselves to be relatively more satisfied than their coworkers. This interpretation is not substantially different than that given to the similar positive correlation to commitment in Table 2: those with high IMPACT scores report themselves to be relatively more committed than their coworkers. The similarity in interpretation can be extended to the change scores in both satisfaction and commitment. Thus, while the two measures do exhibit different psychometric properties, there is no reason to assume these differences would lead to the observed discrepancies between the satisfaction and commitment results.

A more interesting and theoretically based explanation lies in another model of work attitude formation, social information processing theory (Salancik and Pfeffer, 1978). Suppose employee A is about to leave, and B is A's good friend. A's behavior during these last weeks may include providing B with an earful of why it is that A is leaving (complaining about the work, the supervisor, etc.). B's evaluation of the work during this time is influenced by A on two counts. First, since A is a friend, the frequency of interaction will be higher, allowing A more opportunity to provide negative social cues. Second, and equally important, since B perceives A to be a friend, B may take cues coming from A more seriously than cues coming from a stranger. Thus, not only are the social cues from A more frequent, but also, B's receptivity to such cues is enhanced by the friendship link. Once A has terminated, this source of negative information about the workplace also diminishes, resulting in a higher percentage of positive social cues about the work. Hence, B's job attitude toward the job itself improves. Moreover, since the job is more immediate to the employees' experience of work than is an evaluation of the organization, it would seem reasonable that shared communications would focus more frequently on the job than on the organization. Organizational commitment, then, was probably not as susceptible to social information cues; thus, changes in this attitude were less likely to be affected by the turnover itself and more likely to be governed by the anticipation of turnover as described previously.

External Validity

More work on the attributions made by coworkers is necessary before definitive conclusions can be drawn about this process. While interesting results were observed in this study, many unanswered questions remain. One primary question is whether these results are generalizable to other jobs and other kinds of work environments. There are at least three reasons this group of subjects might be considered atypical. As was noted earlier, most of these employees were adolescents. Their first concerns were high school and social relationships, not a career (Greenberger, Steinberg, and Ruggiero, 1982).

What impact this might have on the effect of friends leaving, however, is not clear. On the one hand, a career-oriented individual might take the departure of a friend more seriously, especially if the move provides information about better job opportunities. On the other hand, a career-oriented individual might consider the current work opportunities to be more important information than whether friends stay or leave. In addition, the importance attached to social relationships by the adolescents may enhance the effects of turnover of close friends. On balance, then, it is difficult to predict whether this sample would react differently because of their age to turnover of friends than would more career-oriented samples of employees.

The second reason this sample could be considered atypical is the motivation the employees have for working at all. Fast-food employees work for extra spending money, not for survival. They are not trapped in the job, at least not for economic reasons. They are freer to quit than would be the case if they were career-oriented. Consequently, when someone does leave, the event does not carry with it the gravity it might in a normal job environment. The effect of friends leaving in such "normal" environments, then, might be amplified by the seriousness of the turnover.

Third, in a similar vein, turnover runs at about 200 percent annually in these restaurants. It is part of the culture in the fast-food industry. When someone leaves, it is not particularly interesting news. In environments in which turnover is far less frequent, a single event is likely to be taken more seriously by observers, especially close friends. Thus, we would expect the effects in more typical career-oriented locations to be even stronger than the ones observed in this study.

Although there is thus reason to believe that this sample is substantially different from other kinds of organizations, it would be expected that the effects noted in this study would show up more clearly in a career-oriented workplace than they did in fast-food restaurants. It would be interesting to study more traditional organizations to determine whether such a conjecture withstands empirical testing.

CONCLUSION

The question addressed in this paper was spawned from an interest in micro-organizational phenomena: turnover and employee attitudes. Indeed, the question has been proposed and studied largely by scholars in the micro tradition (Staw, 1980a; Mobley, 1982; Mowday, Porter, and Steers, 1982). The approach taken here to answer this question, however, draws specifically on the sociological literature on informal structures (Burt, 1982). While it is difficult to generalize beyond these data, the results demonstrate a substantial and significant influence of the friendship structure on the relationship between turnover and stayers' attitudes. A strictly micro approach to answering this question would have searched for individual differences or traits to explain the changes in attitudes, thereby missing the structural contribution discovered here.

Conversely, the structure per se provides little insight into why the employees may have responded the way that they did. In

