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Integrating the unfolding model and job embeddesness model to better understand voluntary turnover

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Though varying in intensity with the ups and downs of economic cycles, voluntary turnover persists as an important concern for managers. One academic study reported that the total cost of employee withdrawal to organizations (including turnover, absence, lateness, and withholding of effort, as well as new hire recruiting, selecting and training costs) is 17% of pre-tax annual income (Sagie *et al.*, 2002). Another study calculated the aggregate impact of turnover on American business to be as high as \$11 billion annually (Abbasi and Hollman, 2000). Cascio (1991) has shown that the costs of turnover for technical, professional and manage-

rial employees are especially high. Accenture, one of the world's largest management and IT consulting firms, estimated that when an experienced consultant leaves an organization, he or she takes away a value of over \$1 million (Oz, 2002). In short, managers and researchers continue to be rightfully concerned about voluntary employee turnover.

In reviews of the research on voluntary turnover (Maertz and Campion, 1998; Hom and Griffeth, 1995), scholars have agreed that one of the most promising new theories for understanding and describing turnover is the unfolding model (Lee and Mitchell, 1994). Two empirical stud-

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ies providing support for its propositions have been published (Lee *et al.*, 1996, 1999). One of the major contributions of the unfolding model is the notion of shocks. As defined by Lee and Mitchell, "A *shock* is a particular, jarring event that initiates the psychological analyses involved in quitting a job" (1999: 51). In a new study, Holtom *et al.* (2005) report that in more than 60 percent of voluntary turnover cases they examined across multiple industries, the immediate antecedent to leaving was a shock rather than accumulated job dissatisfaction (Holtom *et al.*, 2005).

Another recent theory that adds richness to the study of voluntary turnover is the job embeddedness model. Mitchell, Lee and colleagues call it a theory of staying (Mitchell, Holtom and Lee, 2001; Lee *et al.*, 2004). Job embeddedness posits that the greater a person's connections to an organization and community, the more likely it is that he or she will remain in their organization.

Mitchell and Lee (2001) call for integration of the unfolding model with the job embeddedness model. The purpose of this study is to do exactly that. More specifically, we aim to combine critical elements of the unfolding model with the job embeddedness model to expand understanding of the voluntary turnover process. First, we review the core elements of both the unfolding model and the job embeddedness model. Second, we develop logic linking the theories. Third, we report empirical results from a large national study of stayers and leavers across hundreds of employers. Finally, we discuss the theoretical and practical implications of the findings.

Unfolding Model

The work by Lee, Mitchell and colleagues (Lee and Mitchell, 1994; Lee *et al.*, 1996, 1999) has demonstrated that many people leave their jobs not just because of negative affect (e.g., job satisfaction, job involvement, organizational commitment), but because of a variety of precipitating events. These events are known as shocks. Further, while individuals experience unique circumstances when they leave organizations, Lee and colleagues (1996, 1999) have found most people follow one of four psychological and behavioral paths when quitting. Three of the four paths are initiated by shocks. The following review will highlight the key components (shocks, scripts, job search, image violations, job dissatisfaction) used to categorize leavers into one of the four paths. Table 1 provides a comparison of the attributes for each of the paths. As can be seen in Table 1, decisions to leave can appear to be somewhat impulsive in nature as in Path 2 where an individual experiences a shock and quickly decides to leave without planning for the future. This can be contrasted with Path 4B leavers who endure a job that they do not like, finally decide to quit, initiate a job search and quit when a better job is found.

Assignment to one of the four paths depicting the turnover process is based on a number of different criteria. Quitting a job may be precipitated by a jarring event, labeled a *shock*, which initiates the psychological analyses involved in quitting a job. A shock can be a positive, neutral, or negative event that is expected or unexpected. Getting accepted to law school would be a positive, anticipated event while receiving an unso-

Table 1
The Unfolding Model Paths

Attribute	Path			
	1	2	3	4B
Initiating Event	Following a plan	Leaving without a plan	Leaving for something better	Leaving without a plan
Script/Plan	Shock	Shock	Shock	Job dissatisfaction
Relative job dissatisfaction	Yes	No	No	No
Active Job Search	No	Yes	Yes	Yes
Example	Planned to go law school. Quit job when accepted to law school.	Individual was passed over for a promotion. Decided to quit.	Received an unsolicited job offer that looks better than current situation. Decided to quit.	As a result of mounting job dissatisfaction decides to quit current job without searching for another job.
				Accumulated dissatisfaction results in successful job search. Finds a new job, then quits.

licit job offer is a positive, unanticipated event. Receiving notification that your company is downsizing would be a negative, unanticipated event. Learning that your boss is getting promoted could be considered a neutral event—one balanced by positive and negative factors. Further, this event might be anticipated or unanticipated. Individuals may prepare a *script* that details a plan of action that can be taken if a shock occurs. Scripts may be based on prior experience, observation of the experiences of others, information obtained from relevant reading and through social expectations. If an individual's values, goals, and strategies for goal attainment do not fit with those of the employing organization or those implied by the shock, an *image violation* occurs. All activities involved with looking for alternatives to the current job are considered part of *search*. Job alternatives include a variety of work and non-work options. This is an important aspect of the unfolding model as it draws attention to the fact that many individuals do not leave an organization to pursue another job. Thus, many of the traditional approaches to retaining employees (e.g., more money) may not be effective. Lee *et al.* (1999) include the evaluation of alternatives in their definition of search for purposes of the unfolding model. Finally, job satisfaction is a component of the unfolding model of turnover. Whereas Paths 1-3 are initiated by shocks, Path 4 is initiated by job dissatisfaction. As shown in Table 1, some workers experiencing job dissatisfaction simply quit without having another job (Path 4A), while other dissatisfied workers quit only after another job is found (Path 4B).

Job Embeddedness

According to Mitchell *et al.* (2001), job embeddedness represents a broad cluster of ideas that influence an employee's choice to remain in a job, operating like a net or a web in which an individual becomes enmeshed. A person who is highly embedded has many connections within a perceptual life space (Lewin, 1951). Moreover, a person can become enmeshed or embedded in a variety of ways (both on and off the job). The critical aspects of job embeddedness are the extent to which the job is similar to or fits with the other aspects in their life space, the extent to which the person has links to other people or activities, and the ease with which links can be broken—what they would give up if they left. These dimensions are called *fit*, *links* and *sacrifice*. Less concerned with the influence of any one specific connection, job embeddedness focuses on the overall level of connectedness (Mitchell *et al.*, 2001).

According to the theory of job embeddedness (Mitchell, Holtom and Lee, 2001), an employee's personal values, career goals and plans for the future must *fit* with the larger corporate culture and the demands of his or her immediate job (e.g., job knowledge, skills and abilities). In addition, a person will consider how well he or she fits the community and surrounding environment. Job embeddedness assumes that the better the fit, the higher the likelihood that an employee will feel professionally and personally tied to the organization.

Job embeddedness theory suggests that a number of threads *link* an employee and his or her family in a social, psychological, and financial web that includes work and non-work

friends, groups, the community, and the physical environment where they are located. The greater the number of links between the person and the web, the more likely an employee will stay in a job (Mitchell *et al.*, 2001).

The concept of *sacrifice* represents the perceived cost of material or psychological benefits that are forfeited by organizational departure. For example, leaving an organization may induce personal losses (e.g., losing contact with friends, personally relevant projects, or perks). The more an employee will have to give up when leaving, the more difficult it will be to sever employment with the organization (Shaw *et al.*, 1998). Examples include non-portable benefits, like stock options or defined benefit pensions, as well as potential sacrifices incurred through leaving an organization like job stability and opportunities for advancement (Shaw *et al.*, 1998). Similarly, leaving a community where they are highly involved in local organizations can be difficult for employees.

One key area where job embeddedness complements traditional approaches to voluntary turnover is community attachment. The model explicitly considers the impact of both organizational and community influences on the three job embeddedness dimensions. Put differently, each of the three dimensions—fit, links and sacrifice—has organizational and community components, which are summarized in Table 2. In two reported tests, Mitchell, Lee and colleagues (Mitchell *et al.*, 2001; Lee *et al.*, 2004) have demonstrated that job embeddedness predicts variance in voluntary turnover over and above job satisfaction.

To date, job embeddedness has been tested in the hospital, grocery

and banking industries. To extend the generalizability of the model, we propose to test it across multiple, diverse industries. Thus, the following hypotheses replicate Mitchell *et al.*'s findings:

Hypothesis 1: Job embeddedness is negatively correlated with voluntary turnover.

Hypothesis 2: Job embeddedness improves the prediction of voluntary turnover above and beyond that accounted for by job satisfaction.

Shocks: Connecting the Unfolding Model and Job Embeddedness Model

A shock to the system is theorized to be a distinguishable event that *jars* an employee toward deliberate judgments about his or her job and may lead the employee to voluntarily quit. A shock is an event that generates information or provides meaning about a person's job, and then is interpreted and integrated into the person's system of beliefs and images. As such, a shock is sufficiently jarring so that it cannot be ignored. An employee's interpretation of the shock depends on the social and cognitive context that surrounds the shock experience. This context provides a frame of reference, or decision frame, within which an employee interprets the shock. The first interpretation is shaped by the general context of the employee's knowledge of the organizational culture (Schneider, 1990). A second interpretation, one that is more personal, is whether the shock can be responded to easily and in an appropriate manner.

Shocks can be personal events that are external to the job or events that are job or organizational in nature. The first category might include winning the lottery, having a spouse transferred, being elected a church

Table 2
Job Embeddedness Definitions

Construct	Description
Job Embeddedness	Job embeddedness represents a broad array of influences on employee retention. The critical aspects of job embeddedness are (a) the extent to which the job and community are similar to or <i>fit</i> with the other aspects in a person's life space, (b) the extent to which this person has <i>links</i> to other people or activities, and (c) the ease with which links can be broken--what the person would <i>sacrifice</i> if he or she left. These aspects are important both on (organization) and off (community) the job.
Fit-organization	Fit-organization reflects an employee's perceived compatibility or comfort with an organization. The person's values, career goals and plans for the future must fit with the larger corporate culture as well as the demands of the immediate job (e.g., job knowledge, skills and abilities).
Fit-community	Fit-community captures how well a person perceives he or she fits the community and surrounding environment. The weather, amenities and general culture of the location in which one resides are relevant to perceptions of community fit.
Links-organization	Links-organization considers the formal and informal connections that exist between an employee, other people, or groups within the organization.
Links-community	Links-community recognizes the significant influence family and other social institutions exert on individuals and their decision making.
Sacrifice-organization	Sacrifice-organization captures the perceived cost of material or psychological benefits that may be forfeited by leaving one's job. For example, leaving an organization likely promises personal losses (e.g., giving up colleagues, projects or perks). The more an employee gives up when leaving, the more difficult it is to sever employment with the organization.
Sacrifice-community	Sacrifice-community is mostly an issue if one has to relocate. Leaving a community that is attractive, safe and where one is liked or respected can be difficult. Of course, one can change jobs but stay in the same home. But even then, various conveniences like an easy commute or flextime may be lost by changing jobs.

officer, losing a loved one, or adopting an infant. The second category includes events such as being passed over for promotion, receiving a job offer/inquiry, having an argument with the boss, becoming vested, or

earning a large bonus. This category also would include corporate takeovers, scandals, diversification, or downsizing. Note that the shocks described in both of these categories may be positive, neutral, or negative

and they may or may not be expected. For example, shocks such as a company takeover, being passed over for promotion, or an unsolicited job offer often are unexpected. Expected shocks might be events such as a planned birth of a child, a previously discussed merger, or a logical and anticipated promotion.

Mitchell and Lee proposed a connection between shocks and job embeddedness.

Being less embedded does not push an employee to leave a job as dissatisfaction does (for instance, someone can have a low level of embeddedness but be satisfied with a job). What low levels of embeddedness may do is make employees susceptible to shocks and dissatisfaction—if they occur, it is easier to search and/or leave. Thus, understanding how embeddedness might deflect shocks and diminish job search may increase understanding of turnover (2001: 1118).

As noted above, shocks are interpreted in context—both organizational and personal. When people *fit* well in their organization, it may take a stronger shock to cause them to consider leaving than if they fit poorly. Thus, one way job embeddedness may buffer the effect of shocks is by influencing their perceptions of jarring events. In other words, people who do not experience a strong sense of fit may be more sensitive to internal events like performance appraisals or raise announcements. They may place more importance on the event to interpret their place in the organization. Hence, the events carry more meaning or are potentially more shocking. Similarly, under conditions of low fit, individuals may be highly sensitized to the impact of external events and their meaning because attachment to the organization or community is not a strong feature in their life space (Lewin, 1951).

According to Holtom *et al.* (2005), the single most frequent shock experienced across professions is the unsolicited job offer. In general, when people with high fit (either organization, community, or both) receive an unsolicited job offer, there is a lower probability the jobs offered will exceed the current job in terms of values, goals, and strategies for goal attainment. This is the case because while individual jobs may vary in their likely fit, in the aggregate outside offers will promise only average fit. Thus, it is less probable image violations will occur and in general the high fit people are expected to remain (Lee and Mitchell, 1994).

When a person who has multiple *links* to the organization and community experiences a shock, the process of sense-making that follows the shock is much more likely to be influenced by others with similar interests and values than for an individual who does not have many links. One example of a strong link is a mentor or well-liked supervisor. When an employee with a mentor experiences a shock, she is likely to discuss the shock and make sense of it with the social support of the mentor. In contrast, someone with few links may not have a mentor and will likely be left alone to make sense of the shock with less collective organizational or community insight available. In short, the person with more links will likely see and interpret the event in a larger context; thus, the event may assume less importance than if considered without social support and multidimensional context.

In addition to forfeiting job stability or growth opportunities by leaving a firm, many people stand to *sacrifice* non-portable benefits, like stock options or defined benefit pensions. An-

other area of growing importance that differentiates organizations is work-life balance. Giving up the flexibility that some employers offer for balancing the competing demands on workers would constitute a major sacrifice. Individuals may value flexibility for a variety of reasons, which may include family responsibilities, attending school or pursuing personal interests. We believe that when personal and unexpected shocking events occur, employees who enjoy flexible work policies (e.g., telecommuting options, flexible schedules) will have more alternatives available to them to adapt to or respond to the issue. Put differently, the flexibility would help to buffer the effects of the jarring event.

As defined by Mitchell *et al.* (2001), job embeddedness is conceived as a key mediating construct between specific on-the-job and off-the-job factors and employee retention. It represents a focus on the affective and non-affective reasons (Lee and Maurer, 1999) underlying why a person would stay on the job. People can become embedded in many different ways; thus, the strength of attachment derived from the different sub-dimensions will vary. Moreover, the ways in which shocks might be deflected or dampened might vary across people. For these reasons, like Mitchell *et al.* (2001), we are most focused on the effect of the overall level of embeddedness, rather than specific sub-dimensions of embeddedness.

In sum, we would expect job embeddedness to be higher among those who stay in jobs than for those who leave. Further, from recent research (Holtom *et al.*, 2005) we believe that most voluntary turnover is initiated by shocks. In the foregoing discussion we have argued that there

are many ways in which job embeddedness will mitigate or dampen the effect of these and other shocks. Because it would take a shock to induce high to moderately job-embedded people to leave, we expect people who leave via shock-induced paths (1, 2 or 3) to have a higher level of job embeddedness than non-shock induced leavers (Path 4). Thus, to test this core idea at the intersection of the unfolding model and job embeddedness, we propose:

Hypothesis 3: Job embeddedness will be higher among departing employees who experience a shock than departing employees who do not and it will be highest among those who stay.

METHODS

The sample for this study was drawn from the Graduate Management Admission Test Registrant Survey initiated in 1989. The survey was comprised of four separate waves of data collection starting in 1990 and ending in 1998. Approximately 250,000 individuals register to take the Graduate Management Admissions Test (GMAT) each year. Based on a stratified random sample of approximately 250,000 test registrants, the Graduate Management Admissions Council (GMAC) sent questionnaires to 7,006 individuals who signed up to take the test between June 1990 and March 1991. Completed questionnaires were received from 5,790 individuals (82.6% response rate).

The current investigation focused on Waves III and IV collected in 1994 and 1998, respectively. Given our interest in voluntary turnover, we looked at individuals who were working full time when the Wave III questionnaire was distributed. While 4,533 individuals completed the Wave III questionnaire and respon-

dents for Wave IV numbered 3,769, the final sample of 1,898 included only those individuals who reported in Wave III they were working full time, had attended a graduate management school and did not report being fired between Waves III and IV. For the final sample, the average age of survey respondents was 35 years, 58 percent were men, 72.5 percent were married and respondents had worked in their current organization for an average of 5.5 years at the time the Wave III questionnaire was completed.

Measures

Turnover. For this study, we were interested only in individuals who were still working in the same organization or those who had voluntarily left their organizations. We compared data from Wave III and Wave IV to determine whether or not respondents were still working for the same employer. Because we are interested in voluntary turnover, individuals who were fired or whose positions were eliminated were not included in the analyses. Of the 1,898 in the sample, 819 (43.2%) left their employer voluntarily.

Job Embeddedness. According to the taxonomy developed by Law, Wong and Mobley (1998), job embeddedness is best characterized as an aggregate model. Thus, it is most appropriately conceptualized and operationalized as a composite formed from its dimensions. Following the Mitchell *et al.* (2001) methodology, we created a composite measure of job embeddedness by averaging its six sub-dimensions using items available on the Wave III survey. The individual items used to compute

the six sub-dimensions values are provided in Appendix A.

Job Satisfaction. Fifteen items on the Wave III survey that were initially developed for use in the 1972-1973 Quality of Employment Survey (Quinn and Shepard, 1974) were utilized to measure job satisfaction. The following statement was presented: "Here are some items that describe different aspects of a person's employer or position. We would like to know how true you feel each item is of your current or most recent employment." Each item was measured on a four-point scale: (1) not at all true, (2) not very true, (3) somewhat true, and (4) very true. Gerhart (1990) used the same items to measure job satisfaction and noted that these items tap the facets measuring job satisfaction in the widely-used Job Descriptive Index (Smith *et al.*, 1969) and the Minnesota Satisfaction Questionnaire (Weiss *et al.*, 1967). Coefficient alpha for the job satisfaction scale was .83.

Control Variables. Although not part of our hypotheses, we controlled for gender because it may have a direct impact on whether an employee leaves an organization. For instance, it has been suggested that women are twice as likely as men are to quit their jobs (e.g., Schwartz, 1989). Recent research investigating the turnover of managers in organizations showed that 26% of the women left their companies while only 14% of the men departed over a two-year period (Stroh *et al.*, 1996). Thus, we controlled for this possible confound.

Reasons for Leaving. In order to assess the presence of shocks as prescribed by the unfolding model of turnover, we evaluated the reasons that individuals left their organizations. On the GMAC Wave IV survey,

respondents were asked, "Are you still employed in this organization?" If the answer was "no," respondents were asked, "What is the **main** reason you left this organization? Please briefly describe the main reason you left this organization?" Using decision rules presented in Appendix B, four judges classified the reasons for leaving of 906 respondents. First, judges assessed whether the turnover was voluntary or involuntary. Eighty-seven of the cases were deemed to be involuntary; because we are interested in voluntary turnover, as noted previously, we subsequently dropped all cases of involuntary turnover from our analysis. The following questions were then used by the judges to assess the characteristics of the event as reported by the respondents: (1) Was it a particular, jarring event that initiated the psychological analyses involved in quitting a job? If no, then no shock is present. If yes, the following questions were asked to identify the characteristics of the shock: (2) Was the event expected or unexpected?, (3) Would you characterize the event as positive, negative, or neither positive or negative?, (4) Did the event that occurred involve personal issues or company issues?, and (5) Was an unsolicited job offer or inquiry the event that first led to thinking about leaving? The judges initially agreed on 95.2% of the decisions. After brief clarification and discussion, 100 percent agreement was achieved between the four judges. Examples of positive, expected events include an offer of employment for a job that a person applied for, the launch of one's own firm, and the birth of a child. Examples of personal issues include a spouse being relocated or a change in marital status (e.g., marriage or divorce). Examples of organ-

izational issues include a fight with one's boss or co-worker, performance issues or merger and acquisition activity.

Analyses

In Hypothesis 1, a continuous variable (job embeddedness) is correlated with a dichotomous variable (voluntary turnover). As such, a point-biserial correlation is reported. For Hypothesis 2, a binary outcome variable (i.e., voluntary turnover) is predicted. Thus, a logistic regression is reported. In Hypothesis 3, a continuous variable is predicted across three categories. Thus, a Scheffe's test is reported. For all statistical tests of hypotheses, the main underlying assumptions were examined and no major violations were found (e.g., outliers, major deviations from normality, multicollinearity).

RESULTS

In line with Mitchell *et al.*'s (2001) finding, the correlation between job embeddedness and voluntary turnover is negative and significant ($r = -.16, p < .001$) as can be seen in Table 3. Thus, Hypothesis 1 is supported.

Table 4 presents the results when turnover is logistically regressed onto the overall measure of job embeddedness. Two control variables were entered in step 1: gender and job satisfaction. Hypothesis 2 asserts that job embeddedness will improve the prediction of voluntary turnover above and beyond job satisfaction. Among workers in multiple industries and job types with widely varied demographic characteristics, job embeddedness significantly improves the prediction of turnover ($\text{Exp}(b) = .42$; Wald statistic = 30.83, $p < .001$)

Table 3
Correlation Matrix

Variables	Mean	s.d.	1	2	3
1. Voluntary turnover	.42	.49			
2. Gender	.60	.49	-.05*		
3. Job Satisfaction	2.94	.46	-.06*	.00	
4. Job Embeddedness	2.13	.38	-.16**	-.01	.15**

* $p < .05$, ** $p < .001$

after controlling for job satisfaction. Hence, Hypothesis 2 is supported.

Hypothesis 3 states that job embeddedness will be higher among departing employees who experience a shock than those who do not and highest among those who stay. As noted in Table 5, 475 of 819 (58%) voluntary leavers experienced a shock that prompted them to leave. The remaining 344 did not experience a shock. Results of an ANOVA ($F = 35.32$, $p < .001$; Table 6) indicate that shock-induced leavers have a statistically significant higher level of overall job embeddedness than non-shock-induced leavers. A Sheffe test indicated that all three groups were statistically significantly different from each other ($p < .01$). As expected, job embeddedness among stayers was higher than for either category of leaver, and job embeddedness was higher for shock-induced leavers

than for non-shock-induced leavers. In sum, Hypothesis 3 is supported.

DISCUSSION

The current study is unique in that it is the first to examine a critical concept at the intersection of two new theories of voluntary turnover—shocks. The study makes a number of important contributions to the turnover literature. First, it adds information about shocks to those results obtained in earlier tests by Lee, Mitchell and colleagues (1996, 1999). In their two tests, Lee *et al.* found that 20 out of 33 (61%) nurses (1996) and 149 out of 212 (70%) accountants (1999) left via paths initiated by shocks. In this large, cross-industry sample we found approximately 58% of all leavers experienced shocks. Because the information for the current study was collected essentially concur-

Table 4
Logistic Regression Analysis of Voluntary Turnover

	<i>b</i>	Wald Statistic	<i>b</i>	Wald Statistic
Gender	.80	3.97*	.79	4.41*
Job Satisfaction	.77	4.85*	.85	1.77
Job Embeddedness			.42	30.83**
χ^2		8.83*		40.87**

* $p < .05$, ** $p < .001$

Values of *b* above 1.0 indicate a positive effect, values at 1.0 indicate no effect, and values below 1.0 indicate a negative effect.

rently with the Lee *et al.* studies referenced here, we are inclined to believe that the differences noted are more likely to be caused by industry or personal factors than macroeconomic factors (e.g., unemployment rates). In specific, we believe that the relatively high and constant demand for nurses and accountants explain the somewhat higher incident of shocks—especially the “job offer as shock” variety. One other issue seems important to note at this time. Many of the shocks were primarily organizational in nature. This should be good news to managers. If organizations design systems to identify potential shocks and have systems in place to address them

(e.g., programs to provide feedback, career counseling or counteroffers), they may be able to stem the tide of voluntary leavers (Mitchell, Holtom and Lee, 2001) and the valuable tacit knowledge they possess (Droege and Hoobler, 2003).

Further, as demonstrated by Mitchell *et al.* (2001) and Lee *et al.* (2004), establishing or increasing job embeddedness is likely to increase retention, attendance, citizenship and job performance. The managerial implications of this are clear: organizations should be pro-active about increasing job embeddedness among employees. Links can be increased through the use of teams and assignments to

Table 5
Shocks

Employee Retention Status	Number	Percentage of Sample	Percentage of Leavers
Stayers	1,079	56.9%	
Shock-induced leavers	475	25.0%	58.0%
Non-shock-induced leavers	344	18.1%	42.0%
	1,898	100%	100%

Characteristics of Shocks	Number	Percentage
Expected	381	80.2%
Unexpected	94	19.8%
Personal	157	33.1%
Organizational	318	66.9%
Negative	77	16.2%
Neutral	39	8.2%
Positive	359	75.6%

long-term projects (Fogarty, 2000); connecting job and organizational rewards to longevity can increase sacrifice; matching their employees' knowledge, skills, abilities and attitudes with the job's requirements can increase fit (Riordan *et al.*, 2001). As important, managers can increase off-the-job embeddedness by selecting people with local roots and by providing people with information about the community and social support for local activities and events (Mitchell, Holtom and Lee, 2001).

Research reported by Maertz *et al.* (2003) and Holtom *et al.* (2002) dem-

onstrates the negative relationship between work flexibility and voluntary turnover. Other benefits of flexible work policies include opportunities for employees to develop more connections or links both inside and outside the organization. To the extent that the policies allow individuals to adapt work roles to their strengths and schedules, employees should experience higher fit both on and off the job. Additionally, as organizational policies facilitate employee involvement in valued work and non-work activities, those employees will perceive a greater sacrifice if they

Table 6
Mean Value of Job Embeddedness by Employee Retention Status^a

	Number	Mean	S.D.
Stayers	1,079	2.18	.35
Shock-induced leavers	475	2.11	.35
Non-shock-induced leavers	344	1.98	.39

^aSheffe's test indicated the means for all three groups are significantly different from each other.

were to consider leaving the organization. In sum, we believe that flexible work policies can play an important role in embedding employees in organizations.

Notwithstanding the potential insights to be gained from this test of job embeddedness, there are a number of limitations. First, the job embeddedness instrument is incomplete. Because we did not design the questionnaire and because it was administered years before Mitchell *et al.* (2001) published their first article on job embeddedness, the measure is not complete in its domain sampling. At the same time and despite this limitation, the results obtained using this measure replicate the key Mitchell *et al.* (2001) finding that job embeddedness explains variance in turnover above and beyond job satisfaction. A second concern is the potential for recall bias that arises with a retrospective design. In the Wave IV survey, people were asked to explain why they left their prior organization. Al-

though information from surveys may suffer from retrospective or social-desirability bias, empirical evidence suggests that critical events such as organizational departure create strong images that are *less* likely to decay than other memories (Symons and Johnson, 1997). Nonetheless, given the potential differences in the nature of the exits (i.e., shock induced versus dissatisfaction induced), this possible source of bias is important to acknowledge. Third, the four-year period between Waves III and IV is large relative to most studies of turnover and to Mitchell and Lee's initial tests (2001, 2004). Yet the longitudinal design is clearly a strength of this study. Moreover, the ability of job embeddedness to predict voluntary turnover over such a relatively long period of time is an indication of its robust nature and, perhaps, superiority over purely attitudinal measures which may experience more variability over time. Fourth, the decision rules for assessing the presence and character-

istics of shocks are based on researcher assumptions. Because it was not feasible to follow up with respondents, it is possible that some variation exists in the characteristics of the shocks (e.g., expected versus unexpected, personal versus organizational) that is not captured. Finally, we could not assess shocks experienced by stayers. Future research should assess whether job incumbents experienced a similar number of shocks as well as similar intensity to compare them with shocks experienced by the leavers. This would offer a more robust test of the buffering effect of job embeddedness. Such research might be conducted in a firm where a natural experiment will take place in the near future (e.g., upcoming shock like a merger or performance appraisal time).

In summary, the overall relationship between variables like satisfaction, involvement, and commitment with turnover is well established. To increase understanding of different types of turnover and retention decisions, Maertz and Campion (1998) called for future research to consider simultaneously the personal and environmental forces that may come to bear. By integrating insights from the unfolding model and job embeddedness, we believe that we have provided additional evidence of influence of both work and non-work influences on turnover. As expected, doing so appears to improve the explanatory power of our predictive models. Importantly, it also gives practitioners additional levers by which to influence the retention of their most-valued employees.

APPENDIX A

Job Embeddedness Items

Fit in the organization was assessed with two items measuring the importance of the following items: "This was the kind of work I was most interested in doing," and "I could use the skills I learned in graduate management school."

Fit in the community was measured with a single item, "The job was located in the area where I wanted to live."

Links to the organization was assessed using the following statement: "The quality of people who work for the company was good."

Links to the community was measured using age, marital status, and number of children as per Mitchell *et al.* (2001). Similarly, we standardized these three items and computed an overall mean score for links to the community.

Community-related sacrifice was assessed using items measuring the extent of respondents' involvement in community organizations such as schools, churches and sports clubs.

Organization-related sacrifice consisted of a seven-item index assessing the importance of company-related benefits: the compensation package was good, the opportunities for stock options were good, the bonus program was good, the job offered flextime options, the job offered family-friendly benefits, the job offered telecommuting opportunities, and the company had good growth prospects.

Adhering to the Mitchell *et al.* (2001) methodology, we averaged the six embeddedness facets to compute an overall measure of job embeddedness.

APPENDIX B

Decision Rules for Classification of “Reasons for Leaving”

1. Don't over-interpret. Base answer on available information.
2. Job offer, unless explicitly “unsolicited,” is assumed to be solicited and therefore an expected shock.
3. If job offer/accepted job is not described as better, assume positive because the person left (i.e., assume rational model of decision making: maximize expected utility).
4. If job offer is described as “better,” assume comparison is about organizational issues.
5. Career/industry changes are assumed to not involve a shock (i.e., are deliberate).
6. Career/industry changes are assumed to be personal (to better fulfill goals).
7. Advancement (or lack thereof) is assumed to be non-shock (unless a specific event or trigger is noted).
8. “Moved” is likely to be expected (other decisions may cause move, but assume some deliberation before “moving/quitting”).
9. To sell one's business is not voluntary turnover.
10. To start a new business is a shock (jarring event).
11. In some cases, a shock may appear to have both personal and organizational components; if explicitly states both, code as both.
12. Changes in marital state are expected (e.g., getting married, having a child). However, making the decision to get married, receiving a marriage proposal or conceiving is not coded as expected.
13. Being laid off is an involuntary departure. However, the experience of seeing others laid off could be a shock.
14. Getting separated from a spouse is unexpected (assumes that people got married and expected to stay together); however, because getting divorced requires filing papers and a long process, it is expected.
15. “Opportunity to ...” is assumed to be personal (within industry or career). Opportunity is assumed to be outside the firm (because person left firm).

References

- Abbasi, S. M. and K. W. Hollman. 2000. “Turnover: The Real Bottom Line.” *Public Personnel Management* 29: 333-334.
- Cascio, W. F. 1991. *Costing Human Resources: The Financial Impact of Behavior in Organizations*. Boston, MA: Kent.
- Droege, S. B. and J. M. Hoobler. 2003. “Employee Turnover and Tacit Knowledge Diffusion: A Network Perspective.” *Journal of Managerial Issues* 15 (1): 50-65.

- Fogarty, T. J. 2000. "Socialization and Organizational Outcomes in Large Public Accounting Firms." *Journal of Managerial Issues* 12 (1): 13-34.
- Gerhart, B. 1990. "Voluntary Turnover and Alternative Job Opportunities." *Journal of Applied Psychology* 75: 467-476.
- Holtom, B. C., T. W. Lee and S. T. Tidd. 2002. "The Relationship Between Work Status Congruence and Work-related Attitudes and Behaviors." *Journal of Applied Psychology* 87: 903-915.
- _____, T. R. Mitchell, T. W. Lee and E. J. Inderrieden. 2005. "Shocks as Causes of Turnover: What They Are and How Organizations Can Manage Them." *Human Resource Management* 44: 337-352.
- Hom, P. W. and R. W. Griffeth. 1995. *Employee Turnover*. Cincinnati, OH: South-Western College Publishing.
- Law, K. S., C. Wong and W. H. Mobley. 1998. "Toward a Taxonomy of Multidimensional Constructs." *Academy of Management Review* 23: 741-755.
- Lee, T. W. and S. D. Maurer. 1999. "The Effects of Family Structure on Organizational Commitment, Intention to Leave and Voluntary Turnover." *Journal of Managerial Issues* 11 (4): 493-514.
- _____, and T. R. Mitchell. 1994. "An Alternative Approach: The Unfolding Model of Voluntary Employee Turnover." *Academy of Management Review* 19: 51-89.
- _____, _____, B. C. Holtom, L. McDaniel and J. W. Hill. 1999. "Theoretical Development and Extension of the Unfolding Model of Voluntary Turnover." *Academy of Management Journal* 42: 450-462.
- _____, _____, C. J. Sablinski, J. Burton and B. C. Holtom. 2004. "The Effect of Job Embeddedness on Organizational Citizenship, Job Performance, Volitional Absences and Voluntary Turnover." *Academy of Management Journal* 47: 711-722.
- _____, _____, L. Wise and S. Fireman. 1996. "An Unfolding Model of Voluntary Employee Turnover." *Academy of Management Journal* 39: 5-36.
- Lewin, K. 1951. *Field Theory in Social Science*. New York, NY: Harper.
- Maertz, C. P. and M. A. Campion. 1998. "25 Years of Voluntary Turnover Research: A Review and Critique." *International Review of Industrial and Organizational Psychology* 13: 49-81.
- _____, M. J. Stevens and M. A. Campion. 2003. "A Turnover Model for the Mexican Maquiladoras." *Journal of Vocational Behavior* 63: 111-135.
- Mitchell, T. R., B. C. Holtom and T. W. Lee. 2001. "How to Keep Your Best Employees: The Development of an Effective Attachment Policy." *Academy of Management Executive* 15: 96-108.
- _____, _____, _____, C. J. Sablinski and M. Erez. 2001. "Why People Stay: Using Job Embeddedness to Predict Voluntary Turnover." *Academy of Management Journal* 44: 1102-1121.
- _____, and T. W. Lee. 2001. "The Unfolding Model of Voluntary Turnover and Job Embeddedness: Foundations for a Comprehensive Theory of Attachment." *Research in Organizational Behavior* 23: 189-246.
- Oz, E. 2002. *Management Information Systems*. Boston, MA: Thomson Learning.
- Quinn, R. P. and L. J. Shepard. 1974. *The 1972-1973 Quality of Employment Survey*. Ann Arbor, MI: Institute for Social Research, University of Michigan.

- Riordan, C. M., E. W. Weatherly, R. J. Vandenberg and R. M. Self. 2001. "The Effects of Pre-entry Experiences and Socialization Tactics on Newcomer Attitudes and Turnover." *Journal of Managerial Issues* 13 (2): 159-177.
- Sagie, A., A. Birati and A. Tziner. 2002. "Assessing the Cost of Behavioral and Psychological Withdrawal: A New Model and an Empirical Illustration." *Applied Psychology: An International Review* 51: 67-89.
- Schneider, B. 1990. *Organizational Climate and Culture*. San Francisco, CA: Jossey-Bass.
- Schwartz, F. N. 1989. "Executives and Organizations: Management Women and the New Facts of Life." *Harvard Business Review* 67: 65-76.
- Shaw, J. D., J. E. Delery, G. D. Jenkins and N. Gupta. 1998. "An Organization-level Analysis of Voluntary and Involuntary Turnover." *Academy of Management Journal* 41: 511-525.
- Smith, P. C., L. M. Kendall and C. L. Hulin. 1969. *The Measurement of Satisfaction in Work and Retirement*. Chicago, IL: Rand-McNally.
- Stroh, L. K., J. M. Brett and A. H. Reilly. 1996. "Family Structure, Glass Ceiling, and Traditional Explanations for the Differential Rate of Turnover of Female and Male Managers." *Journal of Vocational Behavior* 49: 99-118.
- Symons, C. S. and B. T. Johnson. 1997. "The Self-reference Effect in Memory: A Meta-analysis." *Psychological Bulletin* 121: 371-394.
- Weiss, D. J., R. V. Dawis, G. W. England and L. H. Lofquist. 1967. *Manual for the Minnesota Satisfaction Questionnaire* (Minnesota Studies in Vocational Rehabilitation, Bulletin 45). Minneapolis, MN: University of Minnesota.