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### **Turnover contagion:**

How coworkers' job embeddedness and coworkers' job search behaviors influence quitting

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## ABSTRACT

This research develops and tests a model of turnover contagion in which an employee's decision to quit is influenced by the job embeddedness and job search behaviors of his or her coworkers. In a sample of 45 branches of a regional bank and 1,038 departments of a national hospitality firm, multilevel analysis revealed that coworkers' job embeddedness and job search behaviors explain variance in individual voluntary turnover over and above other individual and group-level predictors. Broadly speaking, these results suggest that coworkers' job embeddedness and job search behaviors are discussed.

As the global economy becomes increasingly knowledge based, organizations that can successfully retain their human capital have an advantage over organizations that cannot. Indeed, a number of studies have shown that turnover negatively effects performance (e.g., Shaw, Gupta & Delery, 2005). Hatch and Dyer summarize such findings with the observation that "Firms with high turnover significantly under-perform their rivals" (2004: 1155). As such, organizational leaders are interested in understanding why people choose to leave their jobs and insights that might help with employee retention (Ulrich & Smallwood, 2006). Accordingly, researchers have spent considerable effort developing and testing models to understand why people quit.

To explain the phenomenon of employee turnover, the social sciences have offered both psychological (i.e. micro) as well as organizational and economic (i.e. macro) explanations. On the micro side, job satisfaction and organizational commitment have captured most of the research interest. On the macro side, economic research often looks at particular industries or localities to explain how market forces such as unemployment rates or job supply and demand affect the frequency with which people leave their jobs (e.g., Banerjee & Gaston, 2004). Sociological research has also looked at how turnover affects and is affected by institutional changes within and across industries (e.g., Haveman, 1995), as well as organizational variables such as size (Price, 1977).

The unique contribution of management scholarship is not only to investigate the individual or institutional level, but also what emanates from the careful exploration of "the space in between" (Bradbury & Lichtenstein, 2000). For this reason, organizational researchers are often encouraged to do "meso-level" research where individuals are studied in their social contexts (e.g., House, Rousseau, & Thomas-Hunt, 1995; Johns, 2006). However, there is surprisingly little work on how social relationships affect turnover. To quote Pfeffer, "Turnover

has most often been examined as the consequence of an individual decision process, with the individual acting in isolation... Virtually all of the dominant models of turnover conceptualize it as an individual decision, without considering the effect of social structure" (1991: 795). Although Pfeffer's comment overlooks the work of economists and sociologists, he is broadly correct in stating that the bulk of management research on turnover focuses on individual attitudes as the sole precursor to leaving. The influence of one's immediate coworkers on turnover decisions (what Pfeffer describes as social structure) has been largely ignored.

This article investigates the social dimensions of quitting and offers a model of "turnover contagion" in which the decision to stay at or leave a job is influenced by one's coworkers. We provide evidence that turnover decisions are a domain in which coworkers can influence an actor's thoughts, judgments, feelings, and behaviors (Salancik & Pfeffer, 1978). Two field studies support the predictive validity of our model offering new insights into the interpersonal precursors of voluntary turnover. We argue that this type of meso-level research can widen our conceptual lenses, increase our ability to predict turnover, and enhance the utility of turnover research for practitioners.

#### **TOWARD A THEORY OF TURNOVER CONTAGION**

#### **Turnover Research Heritage**

March and Simon's (1958) seminal book, <u>Organizations</u>, marks the real beginning of the attempt to develop an overall theory to explain why people leave their jobs. According to March and Simon's theory, the two factors that determine whether an employee will leave his or her job are the perceived desirability of leaving the organization (i.e., job satisfaction, organizational commitment) and perceived ease of leaving the organization (i.e., quality of job alternatives). The research focusing on job satisfaction and organizational commitment, in particular, has been

extensive. Mobley (1977) identified the sequence and intermediary variables leading from job dissatisfaction to eventual quitting. In an exemplar of programmatic turnover research, Price and Mueller added to this model by cataloging the antecedents of organizational commitment and job satisfaction, including: pay, social integration, instrumental communication, formal communication, centralization, routinization, role overload, promotional opportunity, professionalism, general training, supervisor support, coworker support, and distributive justice (Price, 1977; Price & Mueller, 1986). It is important to note that in Price and Mueller's model, as in virtually all other traditional models, various factors influence turnover through their impact on organizational commitment and job satisfaction, which in turn influence intent to leave, which then leads to voluntary turnover.

The result of subsequent scholarship based on these ideas is both impressive and troublesome. It is impressive in that turnover theory and research has proceeded programmatically such that we can be confident in a pair of assertions. First, less satisfied and less committed employees think about leaving, look for alternative jobs, are more likely to quit, and do each of these to a greater degree when they believe that desirable job alternatives exist. Second, many individual and macro level variables are related to turnover through satisfaction and commitment. However, the turnover literature is also troublesome in that even the most inclusive models leave the vast majority of variance unexplained (e.g. Griffeth, Hom, & Gaertner, 2000; Maertz & Campion, 1998; Price & Mueller, 1986). A number of authors therefore suggest that we need to expand our conceptual lenses if we want to better understand employee turnover (e.g. Kammeyer-Mueller, Wanberg, Glomb, & Ahlburg, 2005; Mitchell & Lee, 2001; Maertz & Campion, 1998; Mossholder, Settoon, & Henagan, 2005). The turnover contagion process we describe below is such an attempt.

## **The Turnover Contagion Process**

The central theoretical claim made by this paper is that when a coworker engages in behaviors antecedent to leaving a job, these activities sometimes "spill over" onto others, such that the affected others are more likely to leave. Put more precisely, a coworker's search for job alternatives or actual quitting can spread through a process of social contagion to affect another employee's quitting behavior. Like the contagion of illness, the process involves the transmission of something from one individual to another. For us, the "something" is the tendency to leave a job. Others have used the contagion metaphor to understand the spread of burnout (Bakker & Schaufeli, 2000), emotions (Barsade, 2002), and long work hours (Brett & Stroh, 2003).

We believe that the primary mechanism in the contagion of turnover is the pervasive tendency to compare ourselves to others. Research on social comparison has documented that it is among the most robust and ubiquitous of psychological phenomenon (Kruglanski & Mayseless, 1990). "The notion that people rely on others to help define reality in ambiguous circumstances has long been a core tenet in social psychology" (Degoey, 2000: 58). Originating with Festinger's work on social comparison (1954), Salancik and Pfeffer (1978) have extended Festinger's ideas to organizational behavior and job attitudes, while Bandura, (1977) has applied these insights to learning theory. Social comparisons are especially likely in novel, risky, or ambiguous situations (Festinger, 1954; Tesser, Campbell, & Mickler, 1983; Wooten & Reed, 1998). In such cases where comparisons reveal differences with a relevant other's thoughts, feelings, and behaviors become consistent with the relevant other increases (Festinger, 1954). Chartrand and Bargh state "Throughout the history of psychology, many have argued that

the act of perceiving another person's behavior creates a tendency to behave similarly oneself" (1999: 813).

The application to turnover theory is straightforward. Given that the job transition process is often characterized by high levels of risk and uncertainty (Steel, 2002), we expect employees to look to others in evaluating whether to seek alternative employment. When a number of coworkers are looking for other jobs, it may increase the salience and perceived viability of leaving for a focal employee, especially since immediate coworkers are likely targets for social comparison (Kulik & Ambrose, 1992). Conversely, if few coworkers are looking for another job, it is likely that a focal employee will be less inclined to initiate the turnover process. In either case, social comparison helps to answer the question, "Should I consider leaving?" We posit that the chance that the answer will be yes increases when many coworkers are looking for a job. In this way, the transmission of a tendency to leave occurs as employees watch and converse with their coworkers. The focal person may observe such job search behaviors in a dyadic interaction (e.g., "I am going on a job interview this week") or in a group setting where other coworkers are interacting with each other (e.g., "You all should probably know that I have a job interview this week"). Moreover, there are a variety of leaving behaviors that may be observed such as seeing a coworker update a resume, search classified ads, or schedule interviews. In short, there are a range of behaviors indicating that one or multiple coworkers are in the process of leaving.

There are some research examples that address the topic of withdrawal caused by grouplevel variables. Mathieu and Kohler (1990), for example, found that the frequency of absenteeism among work group members was related to individual employee absenteeism. And Eder and Eisenberger (2008) demonstrate that the average tardiness of work group members is

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related to individual tardiness. They also show in a second study that withdrawal behaviors such as taking undeserved work breaks or engaging in idle conversation at the group level influences the probability that individuals do the same. Thus, there is clearly some precedent for the idea that withdrawal behaviors of group members can influence an individual's likelihood of engaging in those behaviors. Importantly, there is no presumption that either job satisfaction or organizational commitment plays a key role in the process. The turnover contagion model highlights the role that simply observing others plays in the process and suggests that a key determinant of whether quitting is a viable option at any given point in time is whether coworkers are leaving.

## From Theory to Hypotheses

Above we have presented a theory of turnover contagion whereby the tendency to quit spreads throughout a work group. We now make two specific hypotheses about factors that are central to the turnover contagion process. First, we hypothesize that turnover contagion is most likely to occur when the coworkers around a focal employee are not embedded in their jobs. We choose to focus on job embeddedness, as opposed to job satisfaction or organizational commitment because it is a broader construct that captures a greater range of factors that provoke leaving. In Mitchell, Holtom, Lee, Sablynski and Erez' (2001) original formulation, the job embeddedness construct addressed how well people <u>fit</u> in their job (e.g. personal skills are well suited to the work assigned) and community (e.g., like the amenities a community provides), the interpersonal <u>links</u> they have on and off the job (e.g. number of ties to people and groups), and what they would have to give up or <u>sacrifice</u> in leaving their place of employment or community (e.g., opportunities foregone). In sum, job embeddedness includes several factors at the individual level that enmesh employees in their jobs and has been shown by numerous studies to

be a good predictor of an employee's tendency to quit (Allen, 2006; Crossley, Bennett, Jex, & Burnfield, 2007; Holtom & O'Neill, 2004; Holtom, Mitchell, & Lee, 2006; Lee, Mitchell, Sablynski, Burton, & Holtom, 2004; Mitchell et al., 2001; Van Dijk & Kirk-Brown, 2003; Zatzick & Iverson 2006). In many of these studies, job embeddedness predicts individual turnover over and above job satisfaction and organizational commitment.

When coworkers' job embeddedness (hereafter referred to as CJE) is low, we believe that the resultant social context will make individuals more likely to entertain the possibility of changing jobs. When coworkers are not tethered to a job (i.e. low CJE), they are likely to be open to the possibility of leaving. It is this willingness to leave that transfers from low embeddedness coworkers to a focal employee in their work unit. Thus, we expect the average job embeddedness of one's coworkers to predict focal employee turnover. Further, since job embeddedness is a broad construct that includes non-affective elements like the number of links to important others or family ties, we would expect this effect even when a focal employee is satisfied with the work itself or committed to the organization.

Let us briefly take some examples from the Mitchell et al. (2001) job embeddedness measure to provide a more grounded understanding of how turnover contagion might operate. Imagine a place where most people strongly agree with the following statements: "I feel like I am a good match for my organization," "I really love the place I live," "I would sacrifice a lot if I left this job," "My family roots are in this community," and "I work closely with my coworkers." Interactions among employees who feel this way are likely to mutually reinforce each other's perceptions that "I belong here, I should be here, and I must remain here." People are unlikely to be looking at want ads, talking about available jobs elsewhere, or saying things that indicate they want to leave. Contrast this with a workplace populated by those who are less embedded in their jobs and communities (e.g., people who feel they don't fit in their workgroup or community, or people who have little to sacrifice in renegotiating their relationship to their job). In this sort of environment, even if they like their job, employees have little to lose by voicing ideas about leaving or about alternative avenues of employment (Bartunek, Huang, & Walsh, 2008). Frequent discussions about leaving are likely to prime other employees, possibly even those who are fairly embedded, to consider quitting. Thus, we hypothesize the following:

*Hypothesis 1. Coworkers' job embeddedness will be negatively related to voluntary turnover.* 

The next question naturally follows: How does a willingness to quit engendered by low job embeddedness influence others? As noted previously, we hypothesize that the transmission of this leaving tendency occurs as employees watch and converse with coworkers searching for alternative employment. In Study 1, we gathered data through a series of focus groups designed to help us better understand the turnover process. A qualitative analysis of the behaviors discussed by the focus group members provides some information about how employees may be influenced by their coworkers' comments about leaving. In Study 2, we sought to specifically measure coworkers' search for alternative employment using the Job Search Behavior Index (Kopelman, Rovenpor, & Millsap, 1992). These authors report that this measure (aggregated to the group level) did an excellent job of predicting leaving and internal transfer, and did so over and above eight affective, perceptional, attitudinal, and intention measures such as organizational commitment, intent to stay, and general job satisfaction. For our purposes, the argument is simple. When an employee sees and hears about coworkers looking for other jobs, leaving becomes a more salient option for her, which leads to a greater propensity to quit. A summary of these ideas can be seen in Figure 1. It should be noted that while both of the studies described

below measure coworkers' job embeddedness, only the second study assesses coworker job search behavior using the Kopelman et al. (1992) measure. Thus, Hypothesis 2 is only empirically tested in Study 2.

*Hypothesis 2. The negative relationship between coworkers' job embeddedness and focal employee turnover is mediated by coworkers' job search behaviors.* 

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Insert Figure 1 about here

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## From Hypotheses to Analytics

While undisputedly important, pursuing meso-level research can be challenging (House et al., 1995). When we define meso-level research (i.e., research that includes activities and processes that take place between the micro and macro) this challenge comes into stark relief. Micro and macro are defined relative to each other, and there are a number of potentially relevant "levels" for both the predictors and criteria including: individuals, dyads, small groups, organizations, industries, and societies. The number of possible combinations is extensive and comments by Klein and Kozlowski (2000) were helpful for our definitional analysis. We are particularly interested in how the behaviors that occur in dyads or existing groups (our independent variable) influence individual members to quit (our dependent variable). This is described as a cross-level phenomenon by Rousseau (1985).

In our case, the phenomenon of interest is turnover contagion. More specifically, each person's job embeddedness reflects an overall "stuckness" in the job (the inverse of which is a willingness to leave), which can be "contagiously" transferred through modeling or direct interaction with coworkers. In actual work situations, individuals may work at various times with just one other individual (i.e., dyadically) or, as is increasingly common, in project teams,

departments, and independent branches (i.e., in a small group). In a small group, any given individual is likely to send turnover contagion stimuli to a number of others as well as receive this sort of leaving stimuli from a number of others in both dyadic and larger group settings.

If a researcher wants to capture the cumulative influence of coworkers on a focal actor's turnover decision, it is necessary to somehow combine the contagious effects of multiple group members (Klein & Kozlowski, 2000). The simplest way to do this is to aggregate the scores of coworkers who are known to work closely with an individual on those variables that have been theorized to be associated with the turnover contagion process—in short, job embeddedness and job search behaviors. As such, we propose to test whether the average of coworkers' job embeddedness scores for a natural group influences individual employee turnover, and, if so, whether this relationship is mediated by the coworkers' average level of job search behaviors.

It is important to point out two statistical issues related to this conceptualization. First, given that a focal individual is nested in a group, it is important to control for a focal individual's own level of job embeddedness or job search behavior in any multilevel statistical test (Klein & Kozlowski, 2000). All subsequent analyses do this. Second, this measurement process does not depend on employees coming to some sort of socially agreed upon consensus about job embeddedness or about job search behaviors. For example, one popular type of meso-level research links group-level consensus about something (e.g., norms, mood, etc.) to individual behavior. Chan describes these as "direct consensus" models (1998). Our theoretical model is not one of direct consensus. As such, the methodological standards used to verify direct consensus effects (i.e., high degrees of agreement as assessed by intra-class correlations or R<sub>wg</sub> statistics) would be meaningless for our analysis. Instead, CJE represents what Chan (1998) calls an

"additive index" model which does not hinge upon agreement, but is instead about whether relevant social comparisons prompt looking for a different job.

## **STUDY 1**

## Methods

**Sample.** Our first research site is a large recreation and hospitality organization, hereafter referred to as Funcorp. This organization operates roughly 200 golf courses, country clubs, private business and sports clubs, and resorts. Funcorp provides services to about 200,000 member families throughout the United States. Our initial sample consisted of 14,981 Funcorp employees who serve its members. Nine thousand seventy-nine employees completed our survey for a response rate of 60.6%. Missing values reduced the number of usable observations to 8,663 or 57.8% of the initial sample. Within our usable sample are 1,037 club departments. Overall, 39.3% of respondents were women; the average age was 39.0 years; the average tenure with the organization was 6.2 years; and 32.6% were non-whites. The average department size was 14.4 with 8.35 survey respondents per department. Demographic data of all employees were provided by the firm, allowing for statistical comparisons to be made between respondents and non-respondents. These comparisons yielded no significant differences in gender, age, tenure, race, or turnover rate which provides some confidence that non-response bias is not a concern.

**Measures.** *Voluntary turnover* was measured in Study 1 as whether the employee voluntarily left the organization in the 18 months immediately following the survey. An 18 month time period is reasonable because it allows enough time for the independent variables to influence employees' turnover decisions and provides us with a large enough sample to reliably run statistical tests. Specifically, 2,001 of the employees surveyed choose to leave Funcorp. This corresponds to an 18-month voluntary turnover rate of 23.1 percent (or 15.4 percent annually).

In prior studies of job embeddedness, researchers have relied on a 40-item measure to capture the six subdimensions that were then aggregated to create composite measures (e.g., Mitchell et al. (2001). In defining the construct, Mitchell et al. (2001) characterize job embeddedness as a formative indicator construct, where multiple variables are associated with the embeddedness construct and where predictive validity represents the major mechanism for validation of its conceptual meaning (Edwards, 2001). In other words, job embeddedness captures a large set of things that enmesh people in their jobs and that predict voluntary turnover.

In the present study, we assessed the degree to which one's coworkers were enmeshed in the organization and community (*Coworkers' Job Embeddedness or CJE*) using a 21-item measure of job embeddedness developed and validated by Holtom, Mitchell, Lee, and Tidd (2006). In this measure development study, the product-moment correlation showed a strong relationship between the original long form and the revised short form (r = .92) used to measure job embeddedness. This measure was developed using data collected from 769 corrections officers. Given the fact that the short-form items are also represented in the long form, we would expect this correlation to be very high. More importantly, after controlling for job satisfaction, the long-form measure of individual job embeddedness significantly predicted voluntary turnover (p<.001) as did the short-form measure (p<.001) which provides evidence of predictive validity for this shorter measure. Further, there was no difference in the amount of variance in turnover explained by the two forms of the instrument.

In both samples, the respondents indicated on a five-point scale the extent to which they agreed with 18 of the 21 items. The other three items involved yes or no answers. Each individual's scores for each item were standardized and averaged to create an individual-level job embeddedness score. These individual job embeddedness scores were then averaged across

employees in each department to create an aggregate of departmental job embeddedness (i.e. CJE). Appendix 1 reports the survey's items. Because individual job embeddedness is a formative (or indicator) construct, high internal consistency (e.g., coefficient alpha) or unidimensionality (e.g., one factor model) are not the standards by which the construct validity should be judged (Diamantopoulos & Winklhofer, 2001). However, for descriptive purposes we note that coefficient alpha was high ( $\alpha = .88$ ).

Control Variables. Given that we wanted to test CJE as a predictor of focal employee turnover, we sought to control for other variables that might provide alternative explanations. These control variables include both the individual (level 1) factors of job embeddedness, job satisfaction, organizational commitment, part-time versus full-time status, age, gender, race, and tenure, as well as the group (level 2) factors of coworkers' job satisfaction, coworkers' organizational commitment, department size, and local unemployment rate. Job satisfaction assessed the degree to which employees were satisfied with 10 dimensions of their jobs (e.g., pay, coworkers, promotion, etc.) using a shortened version of Spector's (1985) job satisfaction measure. Spector's original scale includes 36 items, but due to survey length constraints our shortened measure included only the two best loading items for each subscale (based on Spector 1985). Thus, the respondents indicated on a 5-point scale the extent to which they agreed with 20 items assessing satisfaction with various aspects of one's job. Coefficient alpha for job satisfaction was .93. We measured organizational commitment using four items from Meyer, Allen & Smith's (1993) measure of affective organizational commitment. Respondents indicated on a 5-point scale the extent to which they agreed with the items. Coefficient alpha for this measure was .85. The employees' full or part-time status was determined from organizational records at the time the employee completed the survey (0 = full time; 1 = part time). Part-time employees worked a maximum of 32 hours per week and did not receive benefits, whereas fulltime employees were expected to work at least 40 hours per week and received benefits. We obtained the demographic variables *age*, *gender*, *race*, and *tenure* from the organizations' records and entered them as controls. We included these employee demographic variables in the model because we want to have confidence that effects were not based on employee's life experiences, social categories, or career position.

In addition, the analysis contains several group (level 2) controls because they could also constitute potential alternative explanations. These include *coworkers' job satisfaction* and *coworkers' organizational commitment*, which are the individual-level variables of job satisfaction and organizational commitment averaged across a department. We should reiterate that we are adding group-level job satisfaction and group-level organizational commitment simply as conservative controls. Since they are major predictors of turnover at the individual level they may also control variance in turnover when assessed at the group level. However, we are not postulating that they necessarily operate through a contagion process similar to CJE (although they could). *Department size* was assessed as the number of employees in each branch or department. *Local unemployment rate* was obtained from the Bureau of Labor Statistics for each zip code where a club was located.

### Analysis

Employees who share a department have the same coworkers' satisfaction, coworkers' commitment and coworkers' embeddedness scores. To ignore this dependence by using normal logistic regression would violate a core assumption of regression. Even excluding the focal actor from each aggregated score would leave highly interdependent aggregated scores. In fact, aggregated scores with the focal actor excluded are almost identical to aggregated scores with the

focal actor included (e.g., average correlation is .95). Therefore the data were analyzed with a multilevel logistic regression software called hierarchical generalized linear modeling (or HGLM for short) (Guo and Zhao, 2000). The main difference between hierarchical linear modeling (HLM) and HGLM is that the latter allows for binary outcome variables (i.e. stay / quit). HGLM is ideal for our tests because it is designed to account for non-independence between group-level predictor variables. Given that HGLM is simply multilevel logistic regression, normally distributed outcome variables and error terms are not necessary. HGLM has been used to study multilevel predictors of a wide range of binary outcomes including whether a person drops out of high school, completes college, marries, divorces, or goes bankrupt among others (for a review, see Guo and Zhao, 2000). HGLM helps us to disentangle individual-level effects from social effects by statistically disaggregating the individual (level one) and group (level two) effects. In sum, HGLM is used because it provides the least biased and most informative method of hypothesis testing in this context.

### Results

Tables 1 and 2 report the means, standard deviations, and correlation coefficients between the dependent, independent, and control variables for level one and level two variables. Table 3 presents the results of the HGLM analysis.

Insert Tables 1 through 3 about here

Hypothesis 1 posited a negative relationship between coworkers' job embeddedness and voluntary turnover. Table 3 (Model 1) shows a negative and significant relationship between CJE and individual voluntary turnover (B = -.19; p < .001). We further suggested that CJE would predict turnover even when coworkers' job satisfaction and organizational commitment are

controlled. As shown in Table 3 (Model 2) CJE remains significantly predictive of turnover (B = -.16, p < .001) and neither coworkers' job satisfaction nor coworkers' organizational commitment remains as a significant predictor of turnover in this "competitive test" model. Thus, Hypothesis 1 is supported. Although not the focus of this research, Table 3 shows results that replicate prior research. Specifically, individual-level job satisfaction, organizational commitment, and job embeddedness are significant negative predictors of voluntary turnover (in Model 2; respectively: B = -.07, p < .05; B = -.16, p < .01; B = -.09, p < .01).

## **Supplementary Qualitative Analysis**

Our model suggests that aggregate job embeddedness influences individual turnover through contagion of job search behaviors. In Study 1, we did not quantitatively measure job search behaviors. Instead, we conducted content analyses of a deductive nature based on 11 focus groups at both of our research sites. To get a wide variety of responses, we selected Funcorp and Cashcorp (our pseudonym for the bank in Study 2) sites where employee turnover from prior years was high (6 focus groups) and others where turnover was low (5 focus groups). Eisenhardt and Graebner call this contrasting "polar types" (2007). Focus groups were conducted before sending out the survey in both samples. We asked focus-group participants to tell us about their jobs and why people stay or leave. The focus groups lasted between 90-120 minutes each and an average of eight employees attended each group. All interviews were audio-taped and later transcribed verbatim.

One of the leading measures of job search behavior (Kopelman et al., 1992) asks respondents to note which, if any, of ten different search behaviors they have engaged in during the prior year. The behaviors include revising one's resume, going on a job interview, and talking with coworkers about getting a new job. In the focus groups, we were careful not to put any of the participants under pressure by asking questions about revising resumes or going on job interviews. However, when we asked about the reasons why people stay, we noted that many spontaneous comments about leaving emerged. Moreover, it seemed to be much more acceptable to discuss leaving in the high-turnover locations.

Consequently, we asked two of the authors who were not involved with conducting the focus groups to use Atlas.ti qualitative software (which is a qualitative analysis tool that helps users organize, locate, code, and annotate findings across large volumes of qualitative documents) to independently count the comments about leaving (e.g., reasons for leaving, alternative job options, people who have left or are considering leaving). To ensure the coding process was blind, all focus-group-identifying information was removed from the transcripts. Before coding, the two judges discussed how they would count leaving reasons. For example, they agreed that when a single focus group participant listed several leaving reasons, they would count each reason as unique. One coder counted 158 leaving reasons across the 11 focus groups, and the other coder counted 163 leaving reasons. Together, the two judges identified 168 leaving reasons of which 156 were the same, for 93 percent agreement. All disagreements were resolved in a discussion between the two judges, and the judges ultimately agreed on a final count of 158 leaving reasons.

To assess spontaneous discussions about leaving, the coders counted the number of reasons for leaving that employees publicly stated in each group. Employees mentioned that their coworkers leave for more pay, better opportunities or benefits, a less physically demanding job, or to go back to school. For example, one Cashcorp employee at a low CJE branch made the comment, "Did you know that at [alternative company], the pay starts at \$9 or \$10 and they reimburse 100% of tuition? If I saw that they were hiring, I could see myself leaving." After

conducting the focus groups, the employees were surveyed as part of the broader quantitative portion of our study and as we describe in the methods sections pertaining to Studies 1 and 2. Based on each focus group participant's individual job embeddedness, commitment and satisfaction scores, we calculated each focus group's average level of job embeddedness, commitment and satisfaction. We imputed the organizational average score to each of the five focus group participants (out of 88) who did not fill out a survey. The survey data gathered from focus group participants were also included in the broader HGLM analysis. The number of coded comments about leaving (a proxy for job search behavior) was then correlated with the group's average level of job embeddedness, commitment and satisfaction.

*Findings*. Our findings were consistent with our hypotheses about what causes people to search and leave. The group's average level of satisfaction (r = -.10, n.s.) and commitment (r = -.27, n.s.) were not significantly correlated with the number of comments about leaving. However, and consistent with the turnover contagion model, the group's level of job embeddedness was significantly negatively correlated with the number of comments about leaving (r = -.64, p < .05). This qualitative finding regarding coworkers' job embeddedness is considerably more speculative than our subsequent quantitative findings reported for Study 2. As mentioned by Lee (1999), qualitative research *is not* suited to discussions of prevalence, generalizability, or calibration. Qualitative research, however, *is* well suited to discussions of description, interpretation, and explanation. Thus, these findings increased our confidence in our conceptual understanding and encouraged us to further test whether coworker job search mediates the relationship between coworkers' job embeddedness and focal employee turnover.

#### **STUDY 2**

#### **Hypotheses**

In Study 2, we seek to replicate the results of Study 1 but also to gain greater understanding of the coworker behaviors that explain the effect of CJE on individual employee turnover. Recall that Hypothesis 2 holds that coworkers' job search behavior mediates the effect of CJE on individual turnover. As described in the theory development section, contagion is a process by which turnover propensity spreads from coworkers to a focal actor. This process is hypothesized to occur when employees model each other's leaving-related behaviors (i.e. resumé revision, reading of the classifieds, going on a job interview, etc.). However, Study 1 does not directly measure job search behavior. Study 2 attempts to assess directly if job search behavior is more common where employees are not embedded and if coworkers' search behavior mediates the relationship between CJE and focal employee turnover.

### Methods

**Sample.** Our second sample is a retail bank in the Midwest region of the United States, hereafter referred to as Cashcorp. Cashcorp owns and operates 45 branch offices in two states and has roughly two billion dollars in assets. We sent a survey to all 486 employees. Three-hundred and twenty employees completed the survey for a response rate of 66%. Missing values reduced the number of usable observations to 234 for a final response rate of 48%. Within our usable sample of 45 branches, 77.1% were women; the average age was 37.8 years; the average tenure with the organization was 6.1 years; and 8.2% were non-whites. The average branch size was 10.8 (5.2 survey respondents per branch). In the two years following the survey, 60 employees who completed our survey voluntarily left Cashcorp, which equates to two year voluntary turnover rate of 25.7 percent (or 12.9 percent per year). Finally, non-response bias was unlikely because employees who completed our survey and those who did not were not significantly different in terms of gender, age, tenure, race, or turnover rate.

**Measures.** The measures and methods are only slightly different from Study 1. The most important addition is that Study 2 includes the 10-item Job Search Behavior Index (Kopelman et al., 1992)( $\alpha = .83$ ). This measure is aggregated to the unit level in order to assess the amount of job search activity occurring in a particular bank branch. This index seeks to tap the actual behaviors involved in looking for a new job, and includes items such as, "During the past year, have you revised your resume? ... read the classified/help wanted advertisements in the newspaper? ...sent copies of your resume to a prospective employer? ... talked to coworkers about getting a new job? ...gone on a job interview?" The results of Kopelman and colleagues (1992) suggest that this may be a better and more behaviorally grounded predictor of employee turnover than are intention to leave or attitudinal variables.

Study 2 also employs slightly better measures of job satisfaction and organizational commitment. Whereas the first study used a shortened 20-item version of Spector's Job Satisfaction Index (1985), Study 2 used the full 36-item scale. In addition, Study 1 only assessed affective commitment, and Study 2 used a more comprehensive 18-item measure of organizational commitment which includes affective, normative, and continuance commitment (Meyer et al, 1993). Both studies used the same short version of Holtom and colleagues' job embeddedness scale (2006). Once again, the reliability scores for these scales were high ( $\alpha = .93$  for job satisfaction;  $\alpha = .89$  for organizational commitment; and  $\alpha = .82$  for job embeddedness). Finally, we used Griffeth and Hom's (1988) 5-item Index of Perceived Job Alternatives at the individual level to control for the effect of employee perceptions on the job alternative - turnover relationship. Finally, similar to Study 1, we aggregated five variables (i.e., job search, job embeddedness, job satisfaction, organizational commitment and job alternatives) to the unit

level. Our rationale for aggregating job satisfaction, organizational commitment and job alternatives is the same as for Study 1. They were seen as conservative controls.

Analysis. The analytic technique also remained the same (i.e., HGLM) with the exception that mediation was tested using both the traditional Baron and Kenny (1986) standard and the Sobel test, which directly assesses the statistical significance of the change in regression coefficients when the mediator is added to the equation. As suggested by Baron and Kenny (1986), the Sobel test offers a confirmatory and rigorous test of mediation.

#### Results

The level-one and level-two descriptive statistics are presented in Tables 4 and 5. Results of the regression model of the job attitude variables on the mediator (CJSB), as well as the HGLM analysis for actual quitting are each presented in Table 6. The main purpose of this study though was to test whether the relationship between coworkers' job embeddedness (CJE) and focal employee voluntary turnover would be mediated by coworkers' job search behavior (CJSB). Results indicate that coworkers' job embeddedness is significantly and negatively related to coworkers' job search behavior (B = -.41; p < .001) even after controlling for bank branch size, local unemployment rate, coworkers' organizational commitment, coworkers' job satisfaction, and coworkers' perceptions of job alternatives. Next, we regressed voluntary turnover on CJE (Models 1 and 2 in Table 6). Replicating our first study's findings, CJE significantly predicts turnover (B = -.92; p < .001). Then we regressed voluntary turnover simultaneously on coworkers' job search behavior and coworkers' job embeddedness (Model 3 in Table 6). Whereas CJSP becomes significant, CJE becomes non-significant when the mediator is added. Moreover, the Sobel test shows that the change in the regression coefficient for CJE is itself significant (Sobel t = -8.6; p < .001). Thus, Hypothesis 2 is supported. CJSB appears to

mediate the relationship between CJE and turnover. As in our first study, we found that when we included coworkers' satisfaction and commitment variables in the model, only CJE was still significant.

\_\_\_\_\_

Insert Tables 4 through 6 about here

The implications of our results are apparent by examining effect sizes and statistical ramifications within our sample. On average, using a simple log-odds transformation, we found that a standard deviation increase in coworkers' job embeddedness decreased the probability of an individual voluntarily leaving from 15.4 percent per year to 8.5 percent per year at Funcorp, and from 12.9 percent per year to 4.2 percent per year at Cashcorp. This equates to a decrease in voluntary turnover of 45 percent at Funcorp and 67 percent at Cashcorp, controlling for other variables in the model. We speculate that the Cashcorp results are stronger because the units are smaller and more exclusive. In the confined space of a bank branch, people saw their unit members more frequently and were exposed to only their fellow branch members' leaving behaviors. Across the two samples, a standard deviation decrease in coworkers' job search behavior decreased the probability of an individual turning over by 35 percent. Moreover, in comparing the effect sizes of the individual and coworker variables, we found them to be roughly equal predictors of focal actor quitting. Thus, the job embeddedness and job search behavior of one's coworkers had a sizable influence on focal actor turnover decisions.

#### DISCUSSION

Extending social comparison theory to the domain of turnover, we investigated the role of coworkers' attitudes and behaviors on individual employee turnover propensity. In two separate

samples we found that aggregated coworkers' job embeddedness is a valid predictor of individual voluntary turnover. There are a variety of ways to demonstrate validity: 1) controlling for alternative explanations, 2) predicting a criterion, 3) explaining additional variance over-and-above competitive constructs, and 4) showing the process by which something has an effect (i.e. establishing mediation). It should be noted that all four of these criteria have been demonstrated for CJE. After 1) controlling for demographics (e.g. tenure, age, work-status, gender), perceived and objective measures of job alternatives, and department size, CJE 2) predicts turnover in two distinct samples, 3) over and above similarly aggregated variables such as coworkers' job satisfaction and coworkers' organizational commitment, 4) and can plausibly be seen to operate through the observation of coworkers' job search behaviors. Thus, we can have some confidence that CJE is one important driver of turnover contagion.

But going beyond job embeddedness, we also provide evidence through both qualitative and quantitative analyses that coworkers' job search may act as a critical mechanism in the turnover contagion process. These findings are conservative in that job search behaviors have more recently evolved to include internet job search, job clearinghouse websites, and email correspondence about positions. The Job Search Behavior Index (Kopelman et al., 1992) does not account for these new ways of searching for a job.

A particular strength of the study is the replication of findings across two large samples in two very different settings. Cashcorp employees worked in self-contained branches with relatively few people. The employees at Funcorp, in contrast, were grouped according to department within a larger organizational unit (club). These department members were not isolated from other employees in different departments. We suspect that this dilutes the influence of CJE. As such, finding that CJE influences voluntary turnover at Funcorp represents a more rigorous test of our hypotheses. When the results of these samples are taken together, our confidence in the robustness of our inferences is enhanced.

## **Limitations and Future Research**

We have argued that taking an average of coworkers' job embeddedness and coworkers' job search behaviors makes sense as a way to capture the turnover contagion stimuli to which a focal individual is exposed. However, we note that the assessment of turnover contagion was indirect. Neither the more speculative qualitative data gathered from the focus groups nor the more rigorous job search behaviors gathered in Study 2 measured what the focal person *actually* heard or saw coworkers do. Such behavioral data is difficult to gather but would seem to be a necessary component of future research on this topic. Moreover, there are other variables that might signal how likely it is for contagion to occur (e.g., how close desks are situated to each other, how often or effectively coworkers communicate with each other, friendship levels, or status similarity). Given that such data were not available in our samples, the current research employs a simpler (and more conservative) measurement of turnover contagion. Future research could productively build on these findings to identify alternative operationalizations of the turnover contagion process, as well as moderators of these effects.

Further, our research has not included all variables known to be related to turnover. In particular, a valuable contribution to future research would be to include more macro variables like organizational support, leadership quality, and compensation policies that might be fruitfully integrated as an antecedent, moderator, or alternative mechanism for the turnover contagion model developed here. In particular, it is possible that norms about the legitimacy of leaving might develop which could affect turnover (Abelson, 1993). Recent qualitative work by Bartunek et al. (2008) and an unpublished dissertation by Rumery (2003) suggest that such

collective norms can develop and that they may affect turnover attitudes and behaviors. Unfortunately, our data cannot speak to this issue. Moreover, it should be pointed out that if such norms were to exist, they would be predicated on extensive social comparison (Bartunek et al, 2008), and thus would act as a complementary rather than substitute mechanism for turnover contagion. Thus, while a normative factor could add to the prediction of individual turnover, we do not believe that effect will replace or be as strong as the contagion effect captured here. Said differently, while we have attempted to control for the variables most likely to provide alternative explanations for our findings, we have not controlled for all of them, nor have we included all the variables that may be involved in the process. The inclusion of these additional variables may both clarify and extend the current research.

Finally, another potential limitation concerns the issue of weights for the subdimensions of job embeddedness. As a robustness check, we ran all the analyses using the weighted approach suggested by Law, Wong and Mobley (1998). Specifically, we ran a logistic regression whereby turnover was regressed on the six job embeddedness items to get the weights of each of the dimensions. We then multiplied each individual's score on each dimension by the weight for each dimension and added the six resulting products together. This created the weighted job embeddedness score. We then aggregated these weighted individual job embeddedness scores among the members of each department to create our measure of CJE. The results of this analysis are virtually identical to the straight aggregation approach but with slightly improved predictive validity, which we would expect (Law, Wong & Mobley, 1998; Howell, Breivik &Wilcox, 2007; Edwards, 2001). We choose not to report or base our conclusions on the results using these weights for three reasons. First, such weights capitalize on sample-specific variance and error. Second, based upon findings reported in other studies, the contributions to turnover of

the dimensions vary by samples (Lee et al. 2004, Zatzick & Iverson, 2006, Allen 2006). Thus, using weights means that the construct is essentially different with every sample, which makes it difficult to meaningfully compare results across studies (Howell et al., 2007) and thus reduces generalizability and complicates theory building. Third, it was more conservative (e.g., less likely to capitalize on chance), and in line with previous research to use the aggregate job embeddedness score. However, we should add that this variation in weights points to the need for future research into the potential moderators of the relationship between the subdimensions of job embeddedness and turnover or performance. Better information is still needed about how and under what conditions job embeddedness subdimensions influence turnover. Finally, while we did not use the weights in the research reported here, we recognize that such sample specific information may be what is most valuable in making prescriptions for any given organization.

## **Managerial Implications**

Organizations can use the results of this study to design specific interventions aimed at reducing voluntary turnover. A primary implication is that, at the group level, job embeddedness is an important antecedent to eventual turnover. Beyond just affecting individual decision making, it also influences whether the social environment incites leaving. Of particular interest in the context of this research is a study by Allen (2006). He found that collective socialization tactics—where newcomers experience common learning experiences with a group or cohort—increase embeddedness in the organization. Such socialization tactics provide a common message about the organization, roles, and appropriate responses. This common message may shape how groups of people interpret organizational events like the loss of a respected coworker or a large number of coworkers simultaneously. In short, organizations could actively manage

the content of collective socialization experiences as well as attend to influential individuals in the social network (Bartunek et al., 2008; Mossholder et al., 2005).

Second, individual-level factors that increase IJE should also be considered (Mitchell et al., 2001). Prior research has identified a number of antecedents to on-the-job embeddedness. For example, personality variables such as conscientiousness, extraversion, agreeableness have demonstrated a strong positive relationship with on-the-job embeddedness (Giosan, Holtom, & Watson, 2005). Thus, reducing voluntary turnover through selection is one clearly actionable approach (Barrick & Zimmerman, 2005). Further, both perceived supervisor support and perceived organizational support have been demonstrated to positively predict levels of on-the-job embeddedness (Giosan et al., 2005) and reduced voluntary turnover (Maertz, Griffeth, Campbell, & Allen, 2007). Other suggestions include developing schedules that fit employee needs (e.g., shift, schedule) (Holtom, Lee, & Tidd, 2002), providing creative benefit alternatives or cafeteria plans, tailoring benefits to meet individual needs and enhance work/life balance, allowing employees input in designing work environments, and providing incentives or perks based on tenure (Giosan et al., 2005).

There are also a number of ways that off-the-job embeddedness can be increased. As an example, one firm was able to increase community embeddedness and subsequent retention by recruiting and hiring from communities close to their facilities and avoiding relocating employees whenever possible (Holtom et al., 2006). Similarly, another firm increased links in the community by supporting community service by employees (e.g., 2 days off per year for community service), allowing them to volunteer in local student programs as mentors, and encouraging professional involvement in community-based professional organizations (Holtom, et al., 2006). Finally, one organization augmented community-related sacrifice and subsequent

retention by providing home-buying assistance (Holtom et al., 2006). In sum, there are many ways that organizations might systematically seek to reduce the rate of voluntary, avoidable turnover by enacting programs designed to increase job embeddedness at the meso and micro levels.

There may also be managerial implications associated with job search behavior, although these implications are potentially more controversial. Specifically, managers could prohibit gossiping about people who are looking for other jobs, especially on "company time." This could potentially inhibit the spread of contagious information but such bald attempts at concertive control may provoke reactance, ill-will, and perhaps sabotage. Perhaps a more realistic alternative is for managers to track job embeddedness and turnover at the team level. Where embeddedness is low and/or turnover is high, they might actively try to raise embeddedness scores or reconstitute the group with some people who have high embeddedness. Such changes might reduce the job search behaviors demonstrated by group members.

## **Concluding Thoughts:**

Tackling turnover theory at the meso level is not new; it has been advocated at the organization culture level (Abelson, 1993), and even empirically examined on occasion (c.f. Feeley & Burnett 1997; Krackhardt & Porter, 1985, 1986; Rumery, 2003). However, it is our belief that these approaches have not focused enough on social factors–specifically, the attitudes, characteristics, and behaviors of one's coworkers. Although researchers perhaps do not naturally think of quitting as a social phenomenon, our research suggests that it is, and that additional research regarding the social predictors of turnover is warranted.

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# **Figure 1. The Turnover Contagion Model**



		М	s.d.	1	2	3	4
1	Group Size	8.35	1.50	-			
2	Local Unemployment Rate	4.55	1.01	08	-		
3	Coworkers' Organizational Commitment	4.04	.48	13	.01	-	
4	Coworkers' Job Satisfaction	3.90	.42	02	.04	.63	-
5	Coworkers' Job Embeddedness (CJE)	3.79	.31	09	.00	.64	.59

Table 1. Study 1 means, standard deviations and correlations of level two variables <sup>a</sup>

Table 2. Study 1 means, standard deviations and correlations of level one variables <sup>b</sup>

		М	s.d.	1	2	3	4	5	6	7	8
1	Voluntary Turnover	.23	.42	-							
2	Age	39.98	14.45	21	-						
3	Tenure	7.20	6.79	17	.41	-					
4	Female	.39	.49	.01	07	03	-				
5	Nonwhite	.33	.47	08	04	.05	12	-			
6	Part-time	.26	.44	.07	05	24	.05	17	-		
7	Organizational Commitment	3.97	.87	19	.21	.14	06	.12	13	-	
8	Job Satisfaction	3.89	.72	08	.00	02	06	.12	.04	.62	-
9	Job Embeddedness	3.76	.55	17	.20	.15	01	.06	01	.63	.57

<sup>a</sup> k = 1037 departments; all correlations greater than .03 are significant at p < .01<sup>b</sup> N = 8663 individuals; all correlations greater than .02 are significant at p < .01

Table 3. Study 1 HGLM logistic regression results predicting individual voluntary turnover

	Individual Turnover <sup>a</sup>		
	Model 1	Model 2	
Level 2			
Group Size	01	01	
Local Unemployment Rate	03	03	
Coworkers' Job Embeddedness	19***	16***	
Coworkers' Organizational Commitment		06	
Coworkers' Job Satisfaction		.01	
Level 1			
Age	47***	48***	
Tenure	62***	61***	
Female	05*	05*	
Nonwhite	14***	15***	
Part-time	.09**	.09**	
Job Embeddedness	10**	09**	
Organizational Commitment	17***	16***	
Job Satisfaction	05*	07*	
Log likelihood	-794.45	-802.81	
$-2[L(\beta_{reduced}) - L(\beta_{full})]$		16.72***	

<sup>a</sup> N = 8663 individuals; k = 1037 departments; \* p<.05 \*\* p<.01 \*\*\* p<.01

<sup>c</sup> Perhaps due to two fewer degrees of freedom, the significant change in log likelihood indicates that Model 2 is significantly *worse* at predicting turnover than Model 1

Table 4.	Study 2 means,	standard	deviations	and c	orrelations	of level	two variables <sup>1</sup>	b
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		М	s.d.	1	2	3	4	5	6
1	Group Size	5.20	6.07	-					
2	Local Unemployment Rate	4.08	2.46	08	-				
3	Coworkers' Job Alternatives	3.34	.41	.08	14	-			
4	Coworkers' Organizational	2.97	.35	.04	.03	53	-		
	Commitment								
5	Coworkers' Job Satisfaction	3.27	.31	.01	09	52	.66	-	
6	Coworkers' Job Embeddedness	2.36	.27	.19	02	19	.52	.46	-
7	Coworkers' Search Behavior	.45	.19	12	.13	.38	60	55	60

<sup>a</sup> The correlation between CJE and comments about leaving is -.64, p < .05. The relationships between CJS and COC and comments about leaving are not significant. <sup>b</sup> k = 45 departments; all correlations greater than .19 are significant at p < .05

Table 5. Study 2 means, standard deviations and correlations of level	one variables <sup>a</sup>
-----------------------------------------------------------------------	----------------------------

		М	s.d.	1	2	3	4	5	6	7	8	9	10
1	Voluntary Turnover	.26	.44	-									
2	Age	37.51	12.15	37	-								
3	Tenure	5.89	7.05	26	.47	-							
4	Female	.73	.45	.10	15	03	-						
5	Nonwhite	.09	.28	.20	09	04	.06	-					
6	Part-time	.13	.33	.16	22	13	.13	.09	-				
7	Job Alternatives	3.36	.95	.07	.02	.03	.07	13	06	-			
8	Organizational Commitment	2.97	.62	26	.06	.13	.05	.04	.01	33	-		
9	Job Satisfaction	3.28	.53	24	.04	04	07	02	02	34	.55	-	
10	Job Embeddedness	2.41	.47	28	.30	.27	04	14	17	23	.56	.47	-
11	Job Search Behavior Index	.43	.31	.45	37	33	.03	.10	.06	.19	44	37	49

 $^{a}$  N = 234 for all variables; all correlations greater than .13 are significant at p < .05

Table 6. Study 2 OLS Regression results examining the influence of coworkers' job embeddedness on coworker job search and HGLM logistic regression analyses examining the influence of coworkers' job embeddedness on individual turnover ab

	Coworker	Job Search	Ind	over	
			Model 1	Model 2	Model 3
Level 2					
Group Size	09	04	10	21*	19*
Local Unemployment Rate	.20	.20	.16	.06	04
Coworkers' Job Alternatives	.13	.18		17	26
Coworkers' Organizational Commitment	32*	24		11	04
Coworkers' Job Satisfaction	18	08		27	29
Coworkers' Job Embeddedness		41***	92***	68**	46
Coworkers' Job Search					.59**
Level 1					
Age			58**	52*	54*
Tenure			26	18	18
Female			.08	.16	.15
Nonwhite			.29	.30	.33
Part-time			.29	.27	.28
Job Embeddedness			.12	.10	.12
Organizational Commitment			15	15	15
Job Satisfaction			10	07	10
Job Alternatives			10	11	10
Job Search Behavior Index			.87***	.90***	.87***
R-squared	.44	.55			
R-squared change from previous model		.11***			
Log likelihood			-330.25	-330.55	-326.63
$-2[L(\beta_{reduced}) - L(\beta_{full})]$					7.84**

<sup>a</sup> N = 234 individuals; k = 45 branches; \* p<.05 \*\* p<.01 \*\*\* p<.001<sup>b</sup> To enhance ease of interpretation, we report standardized coefficients

# Appendix 1

# Job Embeddedness Short-form from Holtom et al, 2006

- 1. My job utilizes my skills and talents well.
- 2. I feel like I am a good match for my organization.
- 3. If I stay with my organization, I will be able to achieve most of my goals.
- 4. I really love the place where I live.
- 5. The place where I live is a good match for me.
- 6. The area where I live offers the leisure activities that I like (sports, outdoor activities, cultural events & arts).
- 7. I have a lot of freedom on this job to pursue my goals.
- 8. I would sacrifice a lot if I left this job.
- 9. I believe the prospects for continuing employment with my organization are excellent.
- 10. Leaving the community where I live would be very hard.
- 11. If I were to leave the community, I would miss my non-work friends.
- 12. If I were to leave the area where I live, I would miss my neighborhood.
- 13. I am a member of an effective work group
- 14. I work closely with my coworkers.
- 15. On the job, I interact frequently with my work group members.
- 16. My family roots are in this community.
- 17. I am active in one or more community organizations (e.g., churches, sports teams, schools, etc.).
- 18. I participate in cultural and recreational activities in my local area.
- 19. Are you currently married?
- 20. If you are currently married, does your spouse work outside the home?
- 21. Do you own a home (with or without a mortgage)?

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