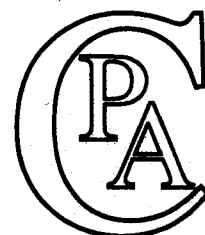
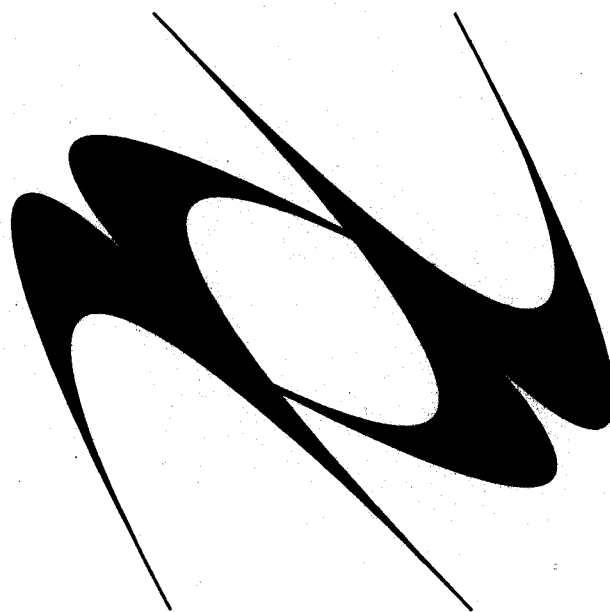


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Antecedents of job embeddedness: The role of individual, organizational, and market factors (1)

Abstract

One of the recent developments in the voluntary turnover research is the job embeddedness model. Participants in two separate studies responded to potential antecedents culled from voluntary turnover and related construct literatures. Outcomes including job performance and actual turnover were examined one year later. A variety of individual, organizational and market antecedents were confirmed across for-profit and non-profit contexts, providing new insights into the job embeddedness construct. Practical implications are discussed.

Key words: *job embeddedness, voluntary turnover, antecedents of job embeddedness, personality factors, big 5.*

For better or for worse, most modern organizations are managed „by the numbers.” In the 1970’s and 1980’s retrospective financial reports (e.g., income statements and balance sheets) were of primary importance; the 1990’s saw increasing attention directed toward market-oriented measures (e.g., stock price growth, earnings per share). The rise of the service economy in recent years has no doubt contributed to the current desire to quantify *leading human capital indicators* – non-asset based numbers that help to predict future profits and effectiveness. Mounting empirical evidence points to the importance of developing human capital as a strategic means for increasing firm value (e.g., Collins & Clark, 2003). Additional work elaborates the human capital elements necessary to reach organization goals in not-for-profit settings where it is not possible to measure firm performance by market value (Watson & Abzug, 2004).

Research linking organization performance to human capital has spurred debate about the reliability and validity of various measures (for an interesting exchange, see Huselid, 2000; Wright, Gardner, Moynihan, Park, Gerhart & Delery, 2001). Nonetheless, there is consensus about turnover’s negative impact on an

* Department of Psychiatry, Weill Medical College of Cornell University, cezar@giosan.com.

** McDonough School of Business, Georgetown University, bch6@msb.edu.

*** Robert J. Milano Graduate School of Management and Urban Policy, New School University, watsonm@newschool.edu.

organization's ability to develop human capital (Pfeffer, 1994). Moreover, recent empirical research demonstrates the harmful performance effects of turnover rates that are high relative to one's competitors (Glebbeck & Bax, 2004), as well as the specific ways it is related to various human resource management practices (Batt, 2002; Huselid, 1995).

For nearly half a century researchers have theorized about why people choose, in March's (1958) parlance, to (continue to) participate in organizations. Until recently most empirical turnover research has focused on identifying factors that stimulate employees to want leave their organizations (e.g., Mobley, 1977; Hom & Griffeth, 1995). Mitchell and colleagues, in a new effort that conceptualizes what motivates employees to stay, conceived and validated a construct which they call job embeddedness (Mitchell, Holtom, Lee, Sablinski, & Erez, 2001). Job embeddedness has been demonstrated to be distinct from related constructs like organization commitment and job satisfaction (Lee, Mitchell, Sablinski, Burton, & Holtom, in press). According to its proponents, job embeddedness is a *leading indicator* of employee retention that provides both an integrative and expansive view of the decision to remain.

Job embeddedness as a construct is still in its early stages of development. No research to date has examined the antecedents to job embeddedness – the critical recruitment and selection factors necessary to attract and hire employees likely to remain, as well as organizational management and external market factors that influence the decision to stay after entry. The present research makes three important contributions that both extend and replicate extant work on employee retention. First, it begins to fill the theoretical gap regarding antecedents to job embeddedness by conceptualizing, categorizing, and testing predictors. Second, it pilots the applicability of the construct across sectors; we present herein two studies that examine antecedents to job embeddedness in both for-profit and not-for-profit contexts. Third, it predicts and tests differential outcomes related to the antecedents of the two contextual sub-dimensions of the construct. We incorporate a longitudinal design in our second study to examine the relationship of job embeddedness on- and off-the-job to employee performance and actual turnover outcomes one year later.

Turnover versus Retention

A grouping of the major voluntary employee turnover models developed in the literature (Mobley, 1977; Steers & Mowday, 1981; Price & Mueller, 1981; Hom & Griffeth, 1995) reveals the inclusion of two major categories of turnover antecedent variables: job or work attitudes and ease of movement. Numerous reviews and meta-analyses have concluded that job satisfaction is negatively related to voluntary turnover (e.g., Cotton & Tuttle, 1986; Griffeth, Hom, & Gaertner, 2000). Organizational commitment, the second major predictor in the job or work

attitudes category, has also been shown to negatively correlate with turnover (Griffeth *et al.*, 2000). Search intentions, thoughts of quitting, and quit intentions emerge as the common mediators of the relationships between job dissatisfaction and voluntary turnover (Hom, Griffeth, & Sellaro, 1984; Hulin, Roznowski, & Hachiya, 1985; Mobley, Griffeth, & Meglino, 1979). Ease of movement has come to mean perceived job alternatives or local unemployment rates. These „external environmental factors” are positively correlated with voluntary turnover (Griffeth, Hom & Gaertner, 2000). In sum, the traditional models have had modest success in predicting turnover; however, the most promising sets of variables seldom explain more than 10% of the variance.

The Distinctiveness of the Job Embeddedness Construct

Mitchell *et al.*, (2001) postulated that it is not one or another issue examined in the plethora of previous turnover studies that is ultimately responsible for employee retention, but rather a constellation of issues. Job embeddedness is conceptually and empirically distinct from job satisfaction and organizational commitment, and coherently captures many of the „other issues” that influence employee retention. The critical factors that create job embeddedness are 1. the extent to which people

Table 1. *Dimensions of Job Embeddedness*

	On the job	Off the job
Links	<p><i>Links with the organization.</i></p> <p>Formal and informal connections and support between the person and colleagues, work groups, supervisors, and the organization as a whole.</p>	<p><i>Links with the community.</i></p> <p>Connections in a social and familial web, including non-work friends, spousal employment, groups, churches, and community organizations.</p>
Fit	<p><i>Fit with the organization.</i></p> <p>Degree to which the person's personal values, career goals, and plans for the future fit with the organization culture, experienced job and career realities.</p>	<p><i>Fit with the community.</i></p> <p>Fit with preferences for the general culture of the location of residence, including weather, amenities, political and religious climates, and the arts.</p>
Sacrifice	<p>What the person would <i>sacrifice</i> if s/he left the <i>organization</i>.</p> <p>Perceived costs of leaving the organization include giving up colleagues, perks, projects, benefits, job stability, and advancement.</p>	<p>What the person would <i>sacrifice</i> if s/he left the <i>community</i>.</p> <p>Perceived potential of loss of desirable community attributes, including school quality, neighborhood safety, and feeling of belonging.</p>

have *links* to other people or activities 2. the extent to which their job and community are similar to or *fit* with the other aspects in their life space and 3. the ease with which these links can be broken or the *sacrifices* a person would make upon leaving an organization. These three dimensions (links, fit, and sacrifice) have both on- and off-the job components, which yield a 3 x 2 matrix.

Job embeddedness is viewed as an aggregate multidimensional construct formed of its six components or dimensions (Law, Wong, & Mobley, 1998). The causal path goes from the causal indicators (items in the survey) to determine the six dimensions, and from the dimensions, the causal arrow goes out to determine the aggregate construct. Thus, conceptually, the indicators are causes of embeddedness, not reflections or effects of it (MacCallum & Brown, 1993).

Job embeddedness has been shown to predict voluntary turnover beyond job satisfaction and organizational commitment. Using separate samples of retail and hospital employees, Mitchell *et al.* (2001) showed that aggregated job embeddedness correlated with intention to leave and predicted subsequent voluntary turnover. Also, job embeddedness significantly predicted subsequent voluntary turnover after controlling for gender, job satisfaction, organizational commitment, job search, and perceived alternatives, thus assessing new and meaningful variance in turnover in excess of that predicted by the major variables included in almost all the major models of turnover (Mitchell *et al.*, 2001). The theorized construct was reliably measured and the basic results were replicated in a later study by Lee and colleagues (Lee, Mitchell, Sablinski, Burton, & Holtom, in press).

On- and Off-the-Job Embeddedness

Job embeddedness has also been found to predict different outcomes when the construct is broken into its two contextual domains, namely, on- and off-the-job embeddedness. Following logic outlined by March (1958) differentiating the decision to participate (stay) and the decision to perform, off-the-job embeddedness predicted subsequent voluntary employee turnover and volitional absences, whereas on-the-job embeddedness did not. Contrasting analyses show that on-the-job embeddedness predicted organizational citizenship and job performance, while off-the-job embeddedness did not (Lee *et al.*, in press). This contextual distinction between employee involvement within an organization itself versus social integration in the organization's community is important when postulating about antecedents to job embeddedness, as detailed in the next section. Figure 1 depicts the overall model of antecedents, job embeddedness, and outcomes.

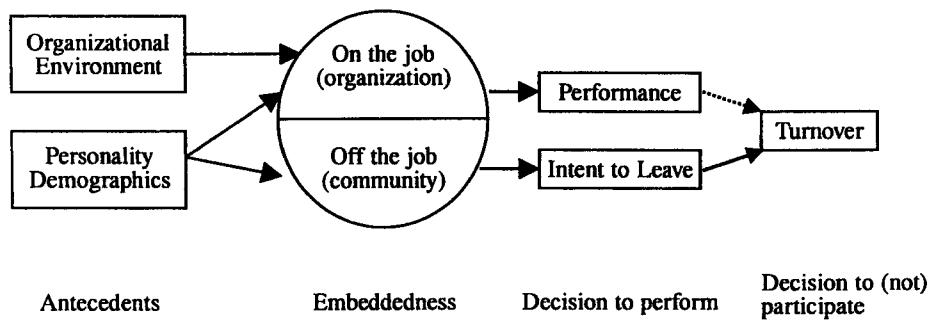


Figure 1. *Relating the Contexts of Embeddedness to Antecedents and Outcomes*

Antecedents of Job Embeddedness

As Lee *et al.* (in press) pointed out, job embeddedness is theorized as an aggregate multidimensional construct formed from its six dimensions with its indicators (items) acting as causes and not reflections of it. But what is behind the causal indicators? What drives someone, for instance, to enter more easily into teams or make connections, which, in turn, will increase their embeddedness? What organizational and individual factors impact how well an individual feels she belongs, or fits, in the current job and organization? What causes one to become involved in community groups or activities to the extent that the prospect of leaving them makes relocation less desirable? Identifying the antecedents of job embeddedness is the goal of the present study.

A review of existing research on antecedents to individual work constructs (e.g., organization commitment, job satisfaction, organization citizenship behavior) reveals a set of overlapping antecedents and categorization schemes. In order to construct an organizing scheme relating these categories of antecedents to the job embeddedness construct, we generated our first list of antecedents by examining published meta-analyses of similar constructs (e.g., Mathieu & Zajac, 1990; Organ & Ryan, 1995). While we attempted to be broad in constructing categories of antecedents, we paid particular attention to the large volume of existing research on antecedents to voluntary turnover. Using Griffeth, Hom and Gaertner's (2000) comprehensive meta-analysis as a guide, we then culled our list of potential predictors to those we hypothesized were most closely related to the construct at hand, and we grouped them into four broad categories: demographic, personality, organizational, and external environment. In the next section we examine these in sequence, beginning at the individual level.

Demographic Factors

According to Griffeth, Hom and Gaertner (2000), the four demographic factors that are the best predictors of voluntary turnover are organizational tenure ($\rho = -.20$), number of children ($\rho = -.14$), age ($\rho = -.09$) and kinship responsibility ($\rho = .08$). Organizational tenure and kinship responsibilities are measured as part of the links in the organization and links in the community dimensions of job embeddedness, respectively. Thus, as predictors of embeddedness we considered number of children and age.

Number of children in care. Independent of one's marital status, the number of children a person has responsibility for should influence a person's level of embeddedness within the community. People who have school-age children may have extended networks of childcare relationships, they may attend school board meetings, they may have developed relationships with neighbors who also have children, or they may have purposely chosen to live in a particular neighborhood because of a schools' quality or demographic mix of students. Given the increased interaction in the community required when people have children in their care, we expect they will have a higher probability of developing more links in their community.

Hypothesis 1: Increased number of children in care is positively correlated with links-community and job embeddedness-community¹.

Age. The older a person becomes, the more opportunities she will have had to develop links in the community and organization. As conceptualized by Mitchell *et al.*, (2001) links are formal or informal connections between a person and institutions or other people. As a person ages, she is more likely to have opportunities to become connected in a work and non-work web that includes friends, informal groups, work committees, professional associations, and other entities in both the community and organization in which she lives. Thus, we propose:

Hypothesis 2A: Age is positively correlated with links-community and job embeddedness-community.

Hypothesis 2B: Age is positively correlated with links-organization and job embeddedness-organization.

Community tenure. While age may be a factor related to embeddedness, there will be cases in which a person, irrespective of age, has recently relocated. As such, his links with the community will not be well established, and the person would not be highly embedded. Time spent in the community, rather than age *per se*, may better predict embeddedness in such a case.

Hypothesis 3: Community tenure is positively correlated with links-community and job embeddedness-community.

1. Because job embeddedness in the community job embeddedness in the organization are aggregate constructs calculated as the means of their sub-dimensions, the hypothesized correlations with the specific sub-dimensions should also apply to the aggregates.

Personality Factors

Big Five. To date there are only a few studies that directly addressed the link between personality and turnover (Griffeth *et al.*, 2000) and no study linking personality and embeddedness. Barrick and Mount (1991) have reported that several of the „Big Five” personality factors – conscientiousness, agreeableness, and openness to experience (as measured by the NEO Personality Inventory) – predict turnover. Other studies have linked Big Five factors to job search behaviors; interestingly, agreeableness, emotional stability, and openness to experience all related positively to job search (Boudreau, Boswell, Judge & Bretz, 2001).

Some people may become more embedded precisely because they have certain personality traits that allow them to enter more easily into short- and long-term on-the-job and/or off-the-job partnerships. A propensity to join teams or to seek mentors may allow these people to become more embedded. We posit that three of the Big Five factors, namely extraversion, agreeableness and conscientiousness, should correlate with embeddedness. Because people who are agreeable and extraverted should enter more easily into relationships, thus enriching the net that surrounds them, breaking their webs of attachment should be more difficult. Furthermore, people who are conscientious perform their jobs better, which usually leads to increased recognition from the organization (both formal, e.g., salary, and informal, e.g. praise), which, in turn, should lead to increased sense of fit with the organization as well as a larger perceived sacrifice in leaving the organization. In sum, we propose:

Hypothesis 4A: Extraversion is positively correlated to links-organization and job embeddedness-organization.

Hypothesis 4B: Agreeableness is positively correlated to fit-organization, sacrifice-organization, and job embeddedness-organization.

Hypothesis 4C: Conscientiousness is positively correlated to fit-organization, sacrifice-organization, and job embeddedness organization.

Organizational Factors

Role ambiguity. Role ambiguity, according to Kahn, Wolfe, Quinn, Snoek, and Rosenthal (1964), is the lack of clear, consistent information regarding the actions required in a particular position. Lack of role ambiguity is considered to have important consequences for the performance and success of groups in business and industry (Rizzo, House, & Lirtzman, 1970) and has been linked to related variables such as cohesion (Grand & Carton, 1982) and role-efficacy (Bray, 1998) in sport teams. Moreover, role clarity has demonstrated consistently negative correlations with turnover ($\rho = -.21$; Griffeth *et al.*, 2000). Regarding job embeddedness, we expect that high perceived role ambiguity would lead to low perceptions of

fit with the job and organization as well as make it easier for someone to consider severing relations with the organization. Thus, we propose:

Hypothesis 5: Role ambiguity is negatively correlated with fit-organization, sacrifice-organization, and job embeddedness-organization.

Perceived organizational and supervisor support. Organizational support theory (Eisenberger, Cummings, Armeli, & Lynch, 1997; Eisenberger, Huntington, Hutchison, & Sowa, 1986; Shore & Shore, 1995) supposes that employees develop global beliefs concerning the extent to which the organization values their contributions and cares about their well-being. This has evolved to be known as *perceived organizational support* (POS). Employees also develop general views concerning the degree to which *supervisors* value their contributions and care about their well-being. This has come to be known as *perceived supervisor support* (PSS) (Kottke & Sharafinski, 1988).

Perceived organizational support has been shown to reduce absenteeism (Eisenberger *et al.*, 1986) and it has been found that perceived supervisor support leads to perceived organizational support (Eisenberger *et al.*, 2002). These studies suggest that supervisors, to the extent that they are identified with the organization, contribute to perceived organizational support and, ultimately, to job retention (Eisenberger *et al.*, 2002).

Perceived organizational support and perceived supervisor support likely influence the sacrifice-organization and fit-organization dimensions of embeddedness. Increased organizational and supervisor support may make it harder for people to give their actual work circumstances up and leave, because of the perceived increased sacrifices that they would have to make. Consequently,

Hypothesis 6A: Perceived organizational support is positively correlated with fit-organization, sacrifice-organization, and job embeddedness-organization.

Hypothesis 6B: Perceived supervisor support is positively correlated with fit-organization, sacrifice-organization, and job embeddedness-organization.

Benefits of employment. In addition to the perceptions about an organization's concern discussed above, the provision of tangible benefits is a tie that embeds employees in organizations. Numerous studies have linked benefits satisfaction to a variety of attitudinal outcomes, including intent to stay, job satisfaction, and organizational commitment (e.g., Trembley, Sire, & Balkin, 2000; Williams, Malos, and Palmer, 2002). Indeed, positive attitudes about the organization as a result of its willingness to provide tangible benefits can decrease one's intent to leave (Allen, Shore, & Griffeth, 2003).

More practically speaking, many employees (and their family members) rely upon employer-sponsored medical, flexible spending, and dependent care accounts for vital support. The greater the number of types of benefits an employee receives, the more likely she is to experience sacrifice associated with the prospect of leaving the organization. This would also be true of employer-specific benefits—those that are unique to a particular organization context and cannot be replicated (easily) elsewhere.

Hypothesis 7A: Participation in (multiple) benefits programs is positively correlated with sacrifice-organization and job embeddedness-organization.

Hypothesis 7B: Use of organization-specific benefits is positively correlated with sacrifice-organization and job embeddedness-organization.

External Environment Factors

Alternatives. The perceived number, quality, and availability of job alternatives are, factors that have been shown to have effects on turnover (both actual and intentions). It has been shown, for instance, that intentions-turnover relationships are weaker with scarce job opportunities (Carsten & Spector, 1987). Other researchers have argued that low perceived alternatives block the enacting of withdrawal intentions (Hom, Griffeth & Sellaro, 1984) and high unemployment correlates negatively with developing decisions to seek alternatives or to resign (Hom *et al.*, 1992, p. 893). Finally, the meta-analytic relationship between job alternatives and turnover is .12 (Griffeth *et al.*, 2000).

The existence of alternatives should affect the way in which someone perceives the value of her actual job and corresponding sacrifices that she would have to make by quitting. A high number of acceptable alternatives should have a negative relationship with the fit-organization and sacrifice-organization dimensions of embeddedness. A small number of such alternatives should act in the direction of embeddedness, by making people value their jobs, situation, and stability more highly.

Hypothesis 8. Perceived job alternatives correlate negatively with fit-organization, sacrifice-organization, and job embeddedness-organization.

Investments. One's investments in a job should have direct effects on job embeddedness, particularly with respect to fit-organization. Long unpaid extra hours, voluntary involvement in non-mandatory work-related activities and other non-portable, idiosyncratic credits, not necessarily directly related to the actual job, should increase the perceived organizational fit – possibly because of the need to reduce cognitive dissonance (e.g., I have invested so many hours in this organization, I must belong here). Similarly, after investing in a job in ways not explicitly rewarded by the organization, people may develop expectations of future recognition or rewards. Thus, leaving would likely entail forfeiting non-contractual rewards. Hence,

Hypothesis 9. Job investments correlate positively with fit-organization, sacrifice-organization, and job embeddedness-organization.

Skills/education transferability. Following a similar line of argument to the one proposed for investments, transferability of skills and education should influence perceptions of the cost of leaving the organization. Presumably, it will be harder for people whose skills and education are not easily transferable to change their current work situation for another. Thus, for people who receive training in

firm-specific skills, we expect they will perceive a greater fit in the organization than in other organizations. Further, we expect they will sense a heightened sense of sacrifice upon leaving a firm where they have accumulated organization-specific knowledge that loses value the minute they leave. In sum, the less transferable the education and training people receive, the higher the likelihood they will perceive organizational fit and sacrifice. Thus, we propose

Hypothesis 10. Skills and education transferability is negatively correlated with fit-organization and sacrifice-organization.

Methods

Study One

To understand the relationship between the antecedents and the dimensions of job embeddedness, we conducted a two-part initial study. Undergraduate students working full-time, seeking degrees in management and taking evening classes at a business college on the East Coast, had the option of choosing to administer a number of surveys as one way of fulfilling an introductory psychology course requirement. The students who opted to distribute the surveys in their firms were given five copies of the job embeddedness antecedents survey, along with instructions to administer it to five people at their workplace. They were also advised that they would have to administer another survey to the same people after a month. We provided consent forms and the additional instructions, which emphasized the confidentiality of the responses, as well as the fact that the survey represented a course requirement of a colleague of the respondents.

After a month, students who had distributed the first survey to their coworkers were given the job embeddedness survey and instructed to administer it to the same people who had signed the consent forms and completed the antecedents survey. We collected 182 antecedent surveys and discarded ten because of missing data or because the corresponding job embeddedness survey was not returned. In total, 172 valid surveys were collected over a period of eight weeks, representing a 94.5% response rate on our convenience sample. Gender distribution was 38% male. Nearly thirty percent (29.8%) identified as White, 29.2% identified as Black, 38.1% identified as Hispanic, 2.4% identified as Asian, and 0.6% identified as „Other” race.

The job embeddedness antecedent survey contained the following items and scales:

Demographic variables. Items measured demographic variables including race, sex, marital status, number of children in care, age and community tenure.

The Big Five inventory. We collected data on all five personality dimensions using a 40-item scale (BFI) (John, Donahue, & Kentle, 1991). Reliabilities in our study were: extraversion, $\alpha = .80$, agreeableness, $\alpha = .73$, conscientiousness, $\alpha = .76$, neuroticism, $\alpha = .75$, openness, $\alpha = .71$.

Role ambiguity. Role ambiguity was captured by using a six-item scale developed by Rizzo, House, & Lirtzman (1970). Cronbach's alpha for the scale was .82.

Perceived organizational support. Perceived organizational support was assessed using three items from the Survey of Perceived Organizational Support developed by Eisenberger *et al.* (1986). We followed the strategy employed by Eisenberger *et al.* (2002) in their analysis of the relationship between perceived organizational support and perceived supervisor support. To assess employees' perception that the organization valued their contribution and cared about their well-being, we used the same three high-loading items that the previous authors selected from the SPOS (Items 1, 4, and 9; Eisenberger *et al.*, 1986) with factor loadings, respectively, of .71, .74, and .83. The measurement scale was of the Likert-type (1 = strongly disagree; 5 = strongly agree). Coefficient alpha for these three items in our study was .88.

Perceived supervisor support. To assess employees' perception that their supervisor values their contribution and cares about their well-being, SPOS was used in the same manner as Kottke and Sharafinski (1988), Hutchison (1997a, 1997b), Rhoades, Eisenberger, & Armeli (2001), and Eisenberger *et al.* (2002), replacing the word *organization* with the term *supervisor*. We used the same three adapted items from the SPOS as Eisenberger *et al.* (1986) who had selected them on the basis of their high loadings (respectively, .72, .76, and .80). The measurement scale was of the Likert-type (1 = strongly disagree; 5 = strongly agree). Coefficient alpha in our study for these three items was .90.

Alternatives. Perceived number of alternatives was measured using a five-item scale employed by Mitchell *et al.* (2001) and adapted from Lee and Mowday (1987). Coefficient alpha for this scale was .79.

Investments. Job investment was assessed with five items. The first, „How much does your investment in this job compare with what most people have invested in their jobs?“ comes from Farrell and Rusbult's (1981) and Rusbult and Farrell's (1983) four-dimension commitment model of predicting turnover. Job investments include factors that are intrinsic to the job like years of service or non-portable training (Rusbult & Farrell, 1983, p. 431). Thus, four more items were also included to better cover the domain of investments that might lead to fit in the organization and sacrifice upon leaving the organization. 1. I have spent many unpaid extra hours at work. 2. I have voluntarily engaged in many organization-related activities that are not a formal part of my job (e.g. committee memberships, event planning). 3. The effort that I have put into my job has helped me to become competent in this line of work. 4. I use my free time to read work-related materials that contribute to my competence on the job. Coefficient alpha for these five items was .58.

Transferability. Skills and education transferability was measured by adapting items used by Fecteau, Dobbins, Russell, Ladd, & Kudisch (1995) and Tesluk, Farr, Mathieu, & Vance (1995). The items were: 1. I can easily use the knowledge that I have gained while working for this company in another work setting.

2. My actual job performance has improved due to the skills I learned in this job.
 3. The skills that I have accumulated while working for this company greatly increased my chances of getting a comparable job elsewhere.
 4. My resume looks better now, after all the training I have received while in this job.
- Coefficient alpha for these four items was .80.

The job embeddedness survey contained the following measures :

Job embeddedness. Job embeddedness and its six subdimensions were collected as measured by Mitchell *et al.* (2001) with minor modification for the organizational context. Alphas for the overall scale and sub-dimensions were : job embeddedness, alpha = .91, job embeddedness-organization, alpha = .92, job embeddedness-community, alpha = .86, fit-organization, alpha = .92, links-organization, alpha = .63, sacrifice-organization, alpha = .72, fit-community, alpha = .85, links-community, alpha = .49, sacrifice-community, alpha = .86.

Intent to leave. Intention to leave was assessed using a three-item scale adapted from Hom *et al.* (1984) and used by Mitchell *et al.* (2001). Coefficient alpha for this scale was .83.

The purpose of study one was pre-test the instrument as well as to administer the survey in two phases to avoid potential common-method concerns that would be raised in study two (where we were required to ensure respondent confidentiality, thus precluding a two-phase process). Because we found the psychometric properties of the two surveys to be reliable, because the results of the two studies are quite similar, and due to space limitations, we combine the presentation of the results for the two studies in our results section.

Study Two

In this study the sample consisted of professionals working for a medium-sized higher education institution on the East Coast. We deliberately chose to survey only the administrative managerial and professional staff in this institution because these employees have readily transferable skills, and thus we surmised that their career patterns were likely to be similar to those of the subjects in previous studies of job embeddedness. Faculty, senior executives (e.g., President and Provost), and union staff were excluded from the study because we suspected that their job embeddedness factors might be substantively different from other populations studied previously (e.g., faculty with respect to tenure, higher executives with unique career patterns, and union members with respect to seniority).

A total of 469 individuals were identified by the institution as part of our initial sample design. We excluded three groups of individuals, reducing our potential sample by a total of 41 individuals : those who did not have permanent workstations and thus were unlikely to reliably receive the mail distribution (security, facilities, and audio/visual staff), staff who worked in human resource areas related to the study, and employees affiliated with institutes not permanently located in the

university (subsidiary research institutes). Surveys were distributed through campus mail to the remaining 428 professionals. The envelope contained the survey and a stamped return envelope, along with instructions and consent forms.

Considerable effort was undertaken to ensure the confidentiality of the responses, including allowing consent forms to be returned separately. The major methodological difference between this sample and the previous one was that this sample received just one survey containing both the antecedents and the embeddedness questionnaire. In other words, they completed all the scales at *one time*, with no pause between the completion of the antecedents scales and embeddedness scales. Within three weeks after the mailing, all potential participants received a reminder email about the survey, and after two more weeks a final reminder was sent.

A total of 123 questionnaires were returned. One questionnaire was discarded because one page was missing; a total of 122 valid questionnaires were collected. By the end of study period (one year after the initial survey), 16 of the original 428 to whom we had distributed surveys had changed to faculty, union, or executive status and thus no longer met our parameters; they were eliminated from the potential sample. This left us with a pool 412 potential valid staff participants, yielding a 29.6% response rate. The questionnaire was identical to the survey administered in Study One with the addition of two items. The first measured how many benefits programs the respondents were enrolled in. The second measured participation in the tuition waiver program offered by the university.

Demographics. Of the 122 respondents included in our analyses, 69.6% were females, average age was 38.9 years; and respondents had a mean of 6.9 years of tenure in the organization. The sample is largely Caucasian (72.5%), with the remainder distributed roughly evenly between Asians (9.8%), Blacks (8.8%), and Hispanics (7.8%). Job titles ranged from senior managers (e.g., associate dean, director, project manager) to professional staff (e.g., programmer, coordinator, and assistant to vice president).

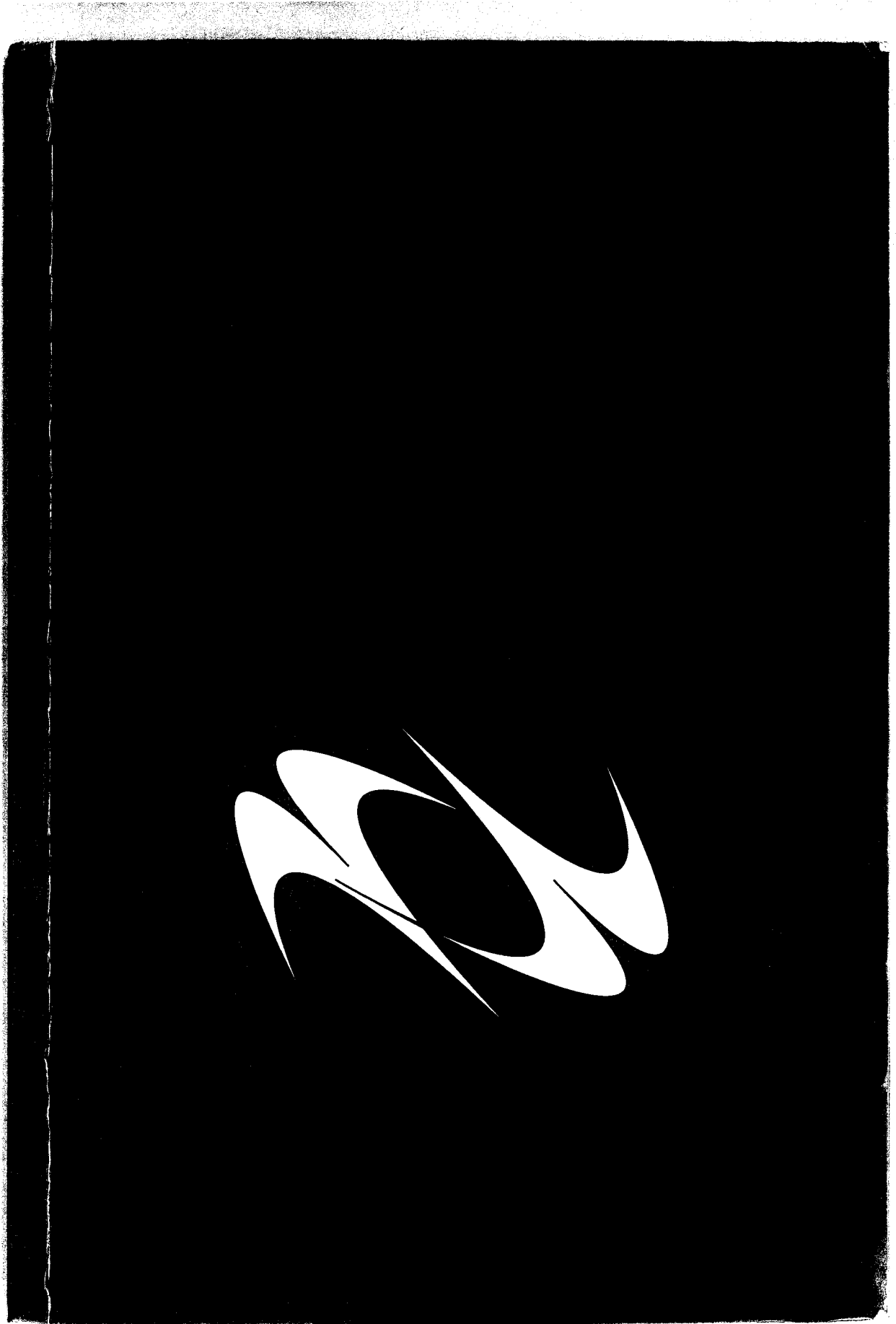
Response bias analysis. We tested for possible response bias by checking for differences in the characteristics of respondent and non-respondents. We found no significant differences in age, tenure in the organization, or full versus part time status. Sex was marginally significant ($p < .099$), with a larger proportion of women versus men responding. Overall race differences were significant ($p < .029$), with Asians (43.5%) responding more frequently than Caucasians (26.9%) and Hispanics (21.1%), and Blacks responding least frequently (13.4%). To control for sex and race differences, we included these two items as control variables in our regression analyses.

Performance. The organization in this study did not have any performance appraisal system in place for managers and professional staff, so it was necessary to develop a performance measure. To do so, we first obtained salary increase data from the organization's payroll records for the year following the survey completion. To investigate possible bias in salary increases across units, we

calculated the average (mean and median) increases by division and department, which we then compared to each respondent's actual raise (if any) and the distribution of increases by unit. Using these indicators as a normative guide, we computed a scaled item with values of 1. low performer (below average raise), 2. average performer (average raise), 3. above average performer (above average raise), and 4. excellent performer (high raise).

Voluntary turnover. We collected actual turnover data from human resource department records. The respondent group had a voluntary turnover rate of 16.7% during the year that followed the survey collection*.

* Partea a doua a studiului, inclusiv bibliografia, va apărea în numărul 4/2005.



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Antecedents of job embeddedness: the role of individual, organizational, and market factors (2)

Results

Tables 1 and 2 present the means, standard deviations, and correlations for studies 1 and 2, respectively. Table 3 shows the results of the job embeddedness antecedents hypotheses. The "+" symbols in the table represent hypotheses of positive correlations and the "-" symbols represent hypotheses of negative correlations. Below each symbol there are the correlations between the antecedents and the corresponding job embeddedness dimensions. To test hypotheses 1-10, we used product-moment correlations.

Demographic factors. As can be seen in table 3, the number of children is correlated with links to the community, as well as job embeddedness in the community (except in study 2). Age is also correlated with links to the community, links in the organization, job embeddedness in the community (except in study 2) and job embeddedness in the organization. Surprisingly, time in the community is not strongly correlated with links in the community or job embeddedness in the community.

Personality factors. As can be observed in table 3, extraversion is correlated with links to the organization in both studies and job embeddedness in the organization in study 2 but not study 1. Agreeableness, in contrast, is correlated with fit, sacrifice and job embeddedness in the organization in both studies. Further, conscientiousness is correlated with fit, sacrifice and job embeddedness in the organization in both studies (except sacrifice in the community in study 1).

Organizational factors. Role ambiguity was not correlated with fit, sacrifice or job embeddedness in the organization in study 1 but was in study 2. However, perceived organizational support and perceived supervisor support were both correlated with fit, sacrifice and job embeddedness in the organization in both studies. Benefits participation and tuition waiver were only applicable in study 2. benefits participation demonstrated the expected positive relationship with fit, sacrifice or job embeddedness in the organization. However, tuition waiver did not.

External environmental factors. Job investments were correlated with fit and job embeddedness in the organization in both samples but not with sacrifice in the organization. Contrary to the expectations, skills transferability was positively correlated with fit, sacrifice, and job embeddedness in the organization. Finally, job alternatives were negatively correlated with fit, sacrifice or job embeddedness in the organization in both samples as predicted.

Table 1. Correlation matrix study 1

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1 Age	34.64	11.74																								
2 Marital status	.34	.41	-.06																							
3 Time in the community	13.56	13.61	.41	.02																						
4 Number of children	.53	.84	.05	-.09	-.05																					
5 Extraversion	3.35	.64	.10	.08	-.01	.05																				
6 Agreeableness	3.82	.51	.04	-.10	.07	-.01	.12																			
7 Conscientiousness	3.97	.50	.16	-.06	.05	.12	.35	.44																		
8 Neuroticism	2.68	.59	-.08	-.01	-.04	-.04	-.16	-.35	-.31																	
9 Openness	3.68	.45	-.01	.07	-.17	.10	.23	.15	.32	-.19																
10 Organizational support	3.23	.88	-.05	-.08	-.08	.13	.13	.19	.09	-.09	-.01															
11 Supervisor support	3.52	.97	-.10	-.02	.03	.03	.09	.28	.11	-.22	-.03	.57														
12 Role ambiguity	2.10	.61	-.06	-.07	-.10	-.02	-.27	-.12	-.28	.17	-.12	-.22	-.24													
13 Intention to leave	2.61	1.18	-.15	.10	-.05	-.12	-.04	.04	-.05	-.05	.16	-.27	-.16	.09												
14 Job investments	3.28	.69	.11	-.18	.00	.06	.16	.08	.18	-.09	.09	.27	.19	-.13	-.11											
15 Skills transferability	4.01	.65	-.25	-.07	-.16	.07	.12	.15	.21	-.01	.10	.38	.29	-.26	-.26	.39										
16 Alternatives	2.79	.85	-.32	.11	-.23	-.04	.10	.02	-.04	-.17	.15	-.15	-.09	.06	.55	-.06	-.01									
17 Links-community	-.04	.63	.30	-.46	.03	.34	.07	.05	.12	-.02	.07	-.04	-.04	-.01	-.12	.19	.03	-.07								
18 Fit-community	3.43	.86	.11	-.23	-.01	.16	.10	.19	.25	.00	.08	.11	.04	-.09	-.04	.19	.18	-.03	.38							
19 Sacrifice-community	3.02	.83	.15	-.29	.16	.15	-.03	.26	.22	.03	.06	.09	.19	-.06	-.13	.19	.21	-.15	.32	.61						
20 Links organization	.00	.62	.47	-.11	.31	.04	.09	.13	.17	-.10	-.08	.37	.29	-.13	-.30	.26	.01	-.48	.13	.19	.27					
21 Fit-organization	3.26	.70	.01	-.22	-.02	.08	.09	.20	.20	-.02	-.13	.61	.43	-.09	-.43	.32	.33	-.31	.12	.25	.32	.66				
22 Sacrifice-organization	3.25	.69	-.08	-.18	-.07	.10	.02	.16	.05	.06	-.08	.56	.46	-.09	-.48	.13	.32	-.36	.08	.20	.36	.44	.68			
23 Embeddedness organization	2.14	.63	.15	-.16	.09	.11	.08	.17	.16	-.02	-.09	.61	.46	-.12	-.48	.27	.27	-.45	.11	.25	.37	.73	.92	.84		
24 Embeddedness community	2.10	.67	.18	-.35	.04	.27	.05	.18	.21	.02	.09	.08	.09	-.07	-.12	.24	.19	-.10	.60	.86	.84	.17	.30	.28	.40	
25 Embeddedness overall	2.12	.55	.19	-.31	.07	.23	.07	.21	.22	.00	.01	.41	.33	-.12	-.36	.31	.28	-.33	.43	.70	.75	.53	.73	.67	.83	.85

Table 2. Correlation matrix study 2

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28		
1	36.84	1.69																														
2	.42	.40	-.25																													
3	1.77	1.83	.53	-.09																												
4	.28	.63	.21	-.20	.09																											
5	3.53	.69	.09	-.20	.00	-.04	.83																									
6	3.90	.48	.19	-.14	-.01	.18	.19	.71																								
7	4.15	.44	.17	-.13	-.04	.05	.34	.47	.70																							
8	2.72	.62	-.12	.05	-.01	.07	-.39	-.24	.30	.77																						
9	4.12	.53	.21	.13	.06	-.04	.20	.14	.28	-.17	.77																					
10	3.14	1.07	.12	.03	.05	-.16	.23	.23	.14	-.31	.01	.90																				
11	3.67	1.16	.07	-.01	.09	-.26	.17	.12	.03	-.23	.06	.76	.89																			
12	1.39	.91	.11	.02	.07	-.09	.15	.03	.05	-.07	.24	.12	.13	.15																		
13	1.72	.87	-.14	.09	-.06	.05	.09	.14	.06	-.06	.28	.01	.06	.15	.12	.00	.91															
14	2.49	.97	-.19	.04	-.18	.02	-.27	-.15	-.19	.29	-.06	-.63	-.58	-.12	.00	.91	.68															
15	3.57	.77	.21	-.15	-.01	.11	.11	-.01	.26	-.17	.01	.09	-.04	.07	-.23	-.09	.68	.68														
16	3.97	.88	.14	.00	.12	.02	.09	.31	.06	-.22	.03	.47	.39	.14	-.08	-.63	.19	.84	.84													
17	3.01	.77	-.41	-.10	-.16	-.07	-.08	.03	-.11	.31	.14	-.37	.31	.14	.03	.30	-.04	-.19	.74	.74												
18	.00	.74	.42	-.46	.26	.26	-.04	.05	-.08	.00	-.24	.12	.19	.07	-.20	-.14	.14	.24	.34	.65												
19	3.90	.93	-.10	.11	-.28	-.15	.10	.05	-.15	.10	-.05	.19	.29	.09	-.09	-.06	.00	.08	-.06	-.03	.88											
20	3.43	.95	-.14	.04	-.02	-.22	-.05	-.10	-.08	.20	-.10	.11	.15	.09	-.09	-.12	-.02	.07	-.04	-.01	.61	.82										
21	.00	.60	.70	-.01	.49	.06	.07	.19	.23	-.21	.24	.21	.09	.07	-.08	-.24	.29	.21	-.27	.16	-.02	.15	.61									
22	3.42	.78	.38	-.03	.17	.03	.20	.41	.39	-.25	.35	.47	.51	.21	-.27	-.41	.22	.37	-.32	.22	.15	.11	.39	.92								
23	3.16	.85	.19	.04	.05	-.14	.21	.28	.24	-.36	.12	.60	.66	.20	-.09	-.50	.11	.48	-.41	.13	.15	.07	.18	.71	.76							
24	2.19	.59	.49	.00	.26	-.03	.21	.38	.36	-.35	.29	.56	.57	.21	-.19	-.50	.25	.47	-.42	.21	.13	.03	.59	.91	.85	.91						
25	2.42	.68	.04	-.11	-.04	-.08	.01	-.01	.15	.16	-.18	.20	.30	.12	-.17	-.15	.04	.18	-.19	.40	.82	.83	-.02	.22	.17	.79						
26	2.29	.55	.34	-.07	.14	-.08	.15	.24	.13	-.12	.07	.50	.57	.20	-.24	-.42	.19	.42	-.40	.39	.63	.57	.37	.73	.66	.76	.83	.91				
27	2.46	.92	.10	.15	.13	.14	.06	.05	.13	-.06	.14	.16	.08	-.13	-.25	-.34	.24	.38	-.06	.06	-.01	.03	.21	.25	.19	.28	.09	.24				
28	2.55	1.25	-.34	.14	-.14	-.01	-.23	-.25	-.28	.37	.07	-.45	-.49	-.16	.12	.35	-.07	-.27	.60	-.32	.08	-.13	-.25	-.66	-.66	-.69	-.24	-.60	-.09	.74		
29	.15	.36	-.14	-.06	.00	.17	-.13	-.08	-.08	.15	-.03	-.20	-.19	-.38	-.11	.16	-.03	.10	.19	-.01	-.19	-.13	-.16	-.28	-.25	-.30	-.13	-.23	.18	.28		

Note : Correlations are statistically significant at the .05 level when they are above .15 and at the .01 level when they are above .20

Table 3. Summary of hypotheses and findings

Hypothesis Individual

Demographics		Community			JE-Com	Organization			JE-Org
		links	fit	sacrifice		links	fit	sacrifice	
1	Number of children	+			+				
	Study 1	.34			.27				
	Study 2	.26			ns				
2A, 2B	Age	+			+				+
	Study 1	.30			.18	.47			.15
	Study 2	.42			ns	.70			.50
3	Time in community	+			+				
	Study 1	ns			ns				
	Study 2	.26			ns				
Personality		Community			JE-Com	Organization			JE-Org
		links	fit	sacrifice		links	fit	sacrifice	
4A	Extraversion					+			+
	Study 1					.19			ns
	Study 2					.22			.21
4B	Agreeableness						+	+	+
	Study 1					.20	.16		.17
	Study 2					.41	.28		.38
4C	Conscientiousness						+	+	+
	Study 1					.20	ns		.16
	Study 2					.39	.24		.36
Organizational		Community			JE-Com	Organization			JE-Org
		links	fit	sacrifice		links	fit	sacrifice	
5	Role ambiguity						-	-	-
	Study 1					ns	ns		ns
	Study 2					-.41	-.50		-.50
6A	Organizational support						+	+	+
	Study 1					.61	.56		.61
	Study 2					.47	.60		.56
6B	Supervisor support						+	+	+
	Study 1					.43	.46		.46
	Study 2					.51	.66		.57
7A	Benefits participation						+	+	+
	Study 1					NA	NA		NA
	Study 2					.21	.21		.21
7B	Tuition waiver						+	+	+
	Study 1					NA	NA		NA
	Study 2					-.27	ns		-.19
External environment		Community			JE-Com	Organization			JE-Org
		links	fit	sacrifice		links	fit	sacrifice	
8	Alternatives						-	-	-
	Study 1						-.32	-.36	-.45
	Study 2						-.32	-.41	-.42
9	Investments						+	+	+
	Study 1						.32	ns	.27
	Study 2						.22	ns	.25
10	Transferability						-	-	-
	Study 1						.34	.32	.27
	Study 2						.37	.48	.47

Correlation matrix and standard deviations study 1: age, marital status, time in the community, number of children, extraversion, agreeableness, conscientiousness, neuroticism, openness, organizational support, supervisor support, role ambiguity, intention to leave, job investments, skills transferability, alternatives, links - community, fit - community, sacrifice - community, links - organization, fit - organization, sacrifice - organization, embeddedness-organization, embeddedness-community, overall embeddedness.

Correlation matrix and standard deviations study 2: age, marital status, time in the community, number of children, extraversion, agreeableness, conscientiousness, neuroticism, openness, organizational support, supervisor support, benefits, tuition reimbursement, role ambiguity, job investments, skills transferability, alternatives, links - community, fit - community, sacrifice - community, links - organization, fit - organization, sacrifice - organization, embeddedness - organization, embeddedness - community, performance, intention to leave, turnover.

Post-hoc analyses

Though not hypothesized, we sought to replicate the core findings from prior studies of job embeddedness; specifically we examined the predictive validity of the job embeddedness in the organization and job embeddedness in the community dimensions with respect to two critical organizational outcomes: performance and voluntary turnover. Using data provided by the organization in study 2, we regressed performance onto job embeddedness in the organization and the community as well as: the personality factors (table 4), organizational factors (table 5), and external environment factors (table 6). We also regressed voluntary turnover using logistic regression onto job embeddedness in the organization and the community as well as: the demographic factors (table 7), organizational factors (table 8), and external environment factors (table 9).

Because of the findings reported in Lee et al. (in press), we expected job embeddedness in the community to predict voluntary turnover and job embeddedness in the organization to predict performance. However, that is not what we found. In all regression equations (except table 5), we observed that job embeddedness in the organization was a statistically significant predictor of performance *and* voluntary turnover even after controlling for the antecedents.

Table 4. *Effects of personality and embeddedness on performance A**

	Beta	t	p
Gender	-.10	-.92	.36
Race	-.05	-.49	.63
Extraversion	-.03	-.30	.77
Agreeableness	-.04	-.35	.73
Conscientiousness	.08	.69	.49
Neuroticism	.03	.23	.81
Openness	.03	.27	.78
Embeddedness-community	.02	.15	.88
Embeddedness-organization	.25	2.06	.04

R = .10
 F = 1.14
 P = .33
 N = 101

* Linear regression.

Table 5. *Effects of organizational factors and embeddedness on performance**

	Beta	t	P
Gender	-.07	-.71	.48
Race	-.12	-1.24	.22
Role ambiguity	-.31	-2.65	.01
Organizational support	.08	.53	.60
Supervisor support	-.30	-2.04	.04
Benefits	-.25	-2.71	.01
Tuition	.28	2.82	.01
Embeddedness-community	.15	1.43	.16
Embeddedness-organization	.23	1.98	.05

R² = .28

F = 4.00

P = .00

N = 101

* Linear regression.

Table 6. *Effects of external environment and embeddedness on performance**

	Beta	t	P
Gender	.01	.14	.89
Race	-.18	-1.78	.08
Job investments	.19	2.02	.05
Skills transferability	.36	3.43	.00
Alternatives	.07	.65	.52
Embeddedness-community	-.06	-.63	.53
Embeddedness-organization	.08	.70	.48

R² = .22

F = 3.96

P = .00

N = 101

* Linear regression.

Table 7. *Effects of demographics and embeddedness on turnover**

	B	S.E.	Wald	Sig.	Exp(B)
Gender	.23	.79	.09	.77	1.26
Race	-.30	.33	.79	.38	.74
Age	-.25	.51	.23	.63	.78
Time in community	.20	.37	.30	.58	1.23
Number of children	.40	.26	2.45	.12	1.49
Embeddedness-community	-.40	.52	.58	.45	.67
Embeddedness-organization	-1.65	.69	5.67	.02	.19

* Logistic regression. Entries for Exp(B) above 1.00 indicate positive effects, and entries below 1.00 indicate negative effects.

Table 8. *Effects of organizational factors and job embeddedness on turnover**

	B	S.E.	Wald	Sig.	Exp(B)
Gender	.18	.77	.05	.82	1.19
Race	-.49	.39	1.57	.21	.61
Benefits	-1.28	.43	8.81	.00	.28
Tuition	.39	.41	.90	.34	1.48
Role ambiguity	-.10	.47	.05	.83	.90
Organizational support	-.09	.52	.03	.87	.92
Supervisor support	.06	.47	.02	.89	1.06
Embeddedness-community	-.22	.62	.13	.72	.80
Embeddedness-organization	-1.79	.86	4.34	.04	.17

* Logistic regression. Entries for Exp(B) above 1.00 indicate positive effects, and entries below 1.00 indicate negative effects.

Table 9. *Effects of external environment and embeddedness on turnover**

	B	S.E.	Wald	Sig.	Exp(B)
Gender	.11	.76	.02	.89	1.11
Race	-.38	.34	1.22	.27	.69
Job investments	.01	.41	.00	.99	1.01
Skills transferability	.24	.40	.36	.55	1.27
Alternatives	.19	.43	.20	.66	1.21
Embeddedness-community	-.50	.55	.83	.36	.61
Embeddedness-organization	-1.83	.70	6.81	.01	.16

* Logistic regression. Entries for Exp(B) above 1.00 indicate positive effects, and entries below 1.00 indicate negative effects.

Discussion

At this early stage in the development of the job embeddedness construct, this study of its antecedents makes a number of theoretical and empirical contributions. First, we have conceptualized and categorized a set of diverse antecedents culled from a large list of possibilities. Second, we have tested the relationship between the antecedents and the job embeddedness using samples from both the for-profit and not-for-profit sectors. Third, we have found that job embeddedness predicts meaningful variance in important outcome measures for organizations – performance and turnover.

Individual Factors

We conclude from the results of the analyses that stable individual factors that are sometimes used in organizational selection procedures are positively correlated with the job embeddedness in the organization. Thus, these findings provide added incentive for organizations to consider personality factors such as agreeableness, conscientiousness and extraversion as well as demographic factors such as time in the community and number of children as factors in employee selection. The finding that age may increase

the probability of a person's becoming job embedded may raise concerns for some human resource professionals in light of laws protecting against age discrimination (ADEA: Age Discrimination in Employment Act). However, this should not be a material concern as the prescription in this case is to consider hiring older workers – those who the ADEA seeks to protect – all other qualifications being equal.

Organizational factors

Further, the findings suggest a number of organizational factors that increase the likelihood of employees becoming job-embedded. Because of the impact of role ambiguity on turnover, as demonstrated in prior studies, as well as its influence on job embeddedness, employers should continue to clearly define roles for organizational newcomers as well as incumbents. Further, just as employers undertake efforts to monitor and manage job satisfaction and organizational commitment to reduce voluntary turnover, we believe that they should also consider efforts to increase perceived organizational and supervisor support. Both are likely to increase the probability of job embeddedness forming. The findings also suggest the value of encouraging employees to take advantage of the benefits programs that are offered. Specifically, the results demonstrate that the more benefits programs that employees at the university enrolled in, the more job embedded they were, the better they performed and the more likely they are to remain employed. Similarly, the results point to the job embeddedness value of providing benefits that are unique to the organization, such as tuition waiver in the case of the university studied.

Environmental Factors

External environmental factors such as perceived job alternatives and skill transferability have frequently been considered in the various turnover models (e.g., Hom, Griffeth, 1995). However, they are usually considered to be moderators of the relationship between intent to leave and actual leaving. In this study, evidence was presented that job alternatives may in fact influence leaving through job embeddedness. Specifically, it appears perceived job alternatives have a relatively strong, negative relationship with fit in the organization and sacrifice in leaving the organization. In other words, the fewer alternatives a person perceives, the higher the probability they exhibit high fit in the organization and would feel it a large sacrifice to leave the organization. More interesting still is the counter-intuitive finding that skill transferability is highly correlated with fit in the organization and sacrifice in leaving the organization. Though this finding is contrary to the hypothesis, one possible interpretation is that employees value ongoing training opportunities from their employer so highly that they feel more job embedded when organizations provide it. In short, employer concerns about training workers who might then take the newfound knowledge to other employers appears to be mitigated by the positive embedding effects of the staff development opportunities.

Community types

The current research adds credence to the idea that job embeddedness is applicable across a variety of community and organization contexts. Previous job embeddedness research has collected data in mid-sized U.S. cities, smaller towns, and rural areas; this

is the first study to examine those who work in the largest urban center in North America. Indeed, conceptualizing the definition of community in major metropolitan areas, and how it might differ from conceptions generated in the other types of communities previously studied, would be fertile ground for future theorizing.

The current work also examines embeddedness in both for-profit and not-for-profit organizations. The majority of prior work on this construct has studied those who work in for-profit organizations. Yet the increasing growth of the non-profit sector in the U.S. suggests academics should increase the amount of research attention devoted to these contexts. It might be posited, for example, that the embeddedness construct operates differently in non-profit organizations that are mission and service driven. While the current study 2 does examine a not-for-profit university setting, a wide variety of other types of non-profits should be investigated.

Finally, given the diversity of the populations studied (in particular in sample 1) we provide preliminary evidence that the embeddedness construct is applicable to varying cultural groups. Of course, cross-cultural generalizability still remains a largely unexamined issue in this line of research, and follow-up studies should test the embeddedness construct, and the antecedents, in other cultures.

Limitations

Although the results of this study are promising, some caveats are in order. A limitation of this study is that data in the second sample were collected at a single point in time. Though additional dependent variables (e.g., turnover, performance) were collected from independent sources, such an approach raises questions about the direction of causality in the hypotheses tested. Although our approach in study 1 to collect the data at two different times does not guarantee the direction of causality, it does help strengthen the causal argument.

Another weakness of these two studies is that data were obtained only through self-reports, which may raise questions about the accuracy and objectivity of the responses. The *magnitude* of the correlations between variables is unlikely to be affected by such a self-enhancement bias, but a replication collecting data from various sources would strengthen the results of this study. Related to this, another potential issue with the administration of self-reports is the single-source bias. Single-source bias is the tendency to respond in consistent ways across measures and it is most problematic when the measures lend themselves to implicit theories (Morrison, 2002; Podsakoff, Organ, 1986). In these studies the effect of single-source bias should not be significant, as it is unlikely that people developed implicit theories about embeddedness, which is a very new construct. Another potential issue with single-source bias emerges when variables are measured on similar scales (Podsakoff, Organ, 1986). Although some of the scales used in the present survey were similar across measures, others were markedly dissimilar (e.g., the scales for the perceived number of alternatives). The instrument administered to the participants had multiple types of questions and used various types of scales; therefore, the similarity of the scales should not constitute a material concern.

Another limitation concerns the sample size in both studies. Complex models like the present one are difficult to test with small samples. Multiple regression models were used to test how much variance could be accounted for by the antecedents and job

embeddedness for each of the dependent variables. However, it might have been informative to test the entire model at once, not parts of it at a time, and for this one would have had to use structural equation modeling. This was not possible in these studies, because the tools are not yet available to test a causal model in the structural equation model context.

Despite these limitations, however, both of these studies yielded many significant correlations between the proposed antecedents and embeddedness. The fact that these correlations were obtained in two very different samples is an argument toward generalizability. When two different groups answer similarly to a set of questions, the argument that their responses are not greatly influenced by their group membership can be made.

Implications for future research

As explained previously, the present study only tried to identify antecedents that related to the individual and which could be tested through self-reports. Antecedents that would relate purely to organizations, such as human resources policies, training systems, technology, career plans, compensation, succession plans, were deliberately excluded from these considerations. These organizational factors likely have an impact on embeddedness. Succession plans, for instance, which are commonly used by some companies for certain positions, should have an impact on sacrifice-organization, or even on fit-organization. A person who is under a succession plan should have an increased sense of job security along with a clearer view of his/her role in the organization, which would positively affect the sacrifice-organization and fit-organization dimensions of embeddedness. A study investigating the role of such organizational factors in embeddedness would complement this study and add important knowledge to this topic.

In sum, job embeddedness is a useful retention construct because it gives managers additional tools and insights to complement the traditional job dissatisfaction induced turnover model. Because of this applied value, it is practical to study factors that will allow organizations to select and manage people in a way that will lead to a higher probability that they will become embedded in the organization and community. On the basis of this and prior research, we expect this to lead to a number of beneficial organizational outcomes including higher job performance and lower intent to leave and voluntary turnover. In sum, the results presented herein suggest that by better understanding the antecedents to job embeddedness, organizations may be able to recruit and select people with a higher propensity to become job embedded as well as programs and policies that might prove especially helpful in further embedding individuals.

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