ANTECEDENTS OF JOB EMBEDDEDNESS

by

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INTRODUCTION

Voluntary turnover seems a straightforward concept. It is when people voluntarily decide to leave an organization. The most obvious dimension of voluntary turnover is *voluntariness* and in this respect the concept is dichotomous (i.e. either voluntary or involuntary). However, such an approach may be simplistic, in that there are instances of quitting a job which have both voluntary and involuntary aspects. For instance, quitting due to relocation of a spouse, or due to pregnancy, seem to have both of these aspects. Because of such difficulties, some authors argued that turnover voluntariness should be measured on a continuum, rather than on a dichotomous scale (Maertz & Campion, 1998).

The difficulties of defining voluntary turnover do not end with whether or not the concept is dichotomous. There are also deficiencies in the number and scope of turnover reasons recorded in personnel files and exit surveys. In certain cases, former employees and their supervisors may report multiple reasons for leaving and the agreement on all reasons among these two sources has been reported to be quite low (25%) even though the agreement on at least one factor was higher (68%) (Campion, 1991).

Other problems in defining voluntary turnover may stem from whom you ask about its occurrence: employees or employer. In general it makes more sense to analyze employee perception, but even in such a case different individuals may hold variant ideas about what constitutes a free-choice decision, so that we expect some variance in their reports and some lack of agreement (Maertz & Campion, 1998).

To minimize the issues emerging from the difficulties with defining voluntary versus involuntary turnover, one should make explicit the criteria that differentiate the

two. Toward this end, I adopt Maertz and Campion's (1998) definition, in which voluntary turnover represents "instances wherein management agrees that the employee had the physical opportunity to continue employment with the company, at the time of termination". In other words, voluntariness means that there was no barrier or impediment (physical, like disability or pregnancy, or from management, like notice of involuntary termination) for that person to have continued employment with that particular organization (Maertz & Campion, 1998). Voluntary reasons include, for instance, non-mandatory retirement, quitting for family relocation, quitting for a more secure job, quitting for a better salary, or leaving for a bigger organization.

CONSEQUENCES OF TURNOVER

Why is a discussion about turnover important? Probably the most obvious reason is the fact that turnover directly impacts the bottom line of any organization. The average employee turnover rate for US businesses in 1999 was 14.4%, the highest level in almost two decades. Voluntary turnover in the US has diminished in more recent years mostly because of a shrinking economy, which reduced the number of alternatives and ease of movement. Employee turnover is estimated to cost about $11 billion a year, emerging as one of the most significant factors that impacts the bottom line. The "find them, lose them, replace them" syndrome is particularly important for businesses because the most talented and experienced people are those who are disproportionately most likely to leave (Abbasi & Hollman, 2000). Employee turnover costs are sometimes hard to estimate because usually turnover hits in more than one budget, and also because the indirect expenses such as training time for the newcomers, are difficult to quantify. It is

estimated, for instance, that the direct and indirect costs of replacing a senior Information Technician Engineer who leaves within six months from joining a company can reach as much as $100,000 (Brown, 2000). A middle-level manager replacement cost can reach 1.5 times the person's annual salary and benefits (Gooley, 2001). Administrative costs usually increase with increased turnover (Mirvis & Lawler, 1977) because of the expenses associated with new direct hirings or with using staffing agencies.

Employee turnover has significant impact on organizational performance. Marshall (2001) showed a strong correlation between employee retention and quality of service rated by the customer, and other studies showed negative correlations between organizational effectiveness and employee turnover. A study at Sears, for example, showed that as voluntary turnover decreased, financial performance increased (Ulrich, Halbrook, Meder, Stuchlik, & Thorpe (1991).

In short, the most direct consequences of turnover are the added staffing and training costs, associated with personnel loss and sometimes decline in organizational efficiency. Other consequences may be less tangible, yet very important, such as low morale among the ones who stay, which may negatively affect job performance and overall work satisfaction.

Of course, turnover does not have only negative consequences. In fact, some feel that negative effects have been overemphasized (Dalton, Todor & Krackhardt, 1982). Society can actually benefit from voluntary turnover because it generally permits job movement. Voluntary turnover can improve person-job match. For instance, society benefits from voluntary turnover when it occurs in the primary labor market, allowing entrance to those in secondary labor markets (Muchinsky & Morrow, 1980). Other instances of cases in which voluntary turnover can be actually beneficial are those where a highly paid, long-tenured employee is replaced by a new hire. In such a case, an

organization saves in salary costs (Campion, 1991). In other instances, an organization can save if a poor performer quits, or through the creativity and freshness created by bringing in "new blood" (Campion, 1991; Dalton, et al., 1982; Muchinsky & Morrow, 1980).

Research on what instances of turnover are beneficial to an organization is still underdeveloped. The most comprehensive approach is that of Boudreau and Berger (1985), whose organizational utility perspective considered the quantity of movers, the quality of movers, and the costs to produce movement. Expanding the traditional utility equations, they included not only the replacement employee, but also multiple hiring cohorts, continuous retentions and repeated acquisitions. These equations use average service values and costs to estimate utility under various rates, distributions and conditions of turnover. Essentially, the authors conclude that employee turnover may bring benefits to the organization when selection, training, and other replacement costs are low.

In short, turnover can have both positive and negative consequences and whether it impacts negatively or positively in an organization depends on its specific circumstances and moment in time. The major question seems to be which employees would organizations most want to prevent from quitting. The answer will most likely come from studying turnover utility at the individual level, which would take into account an individual's performance, potential, compensation, et cetera, along with the same variables for the replacement employee. Maertz and Campion (1998) point out that after this question has been answered, two others equally important for management emerge: Which types of voluntary turnover can be prevented by an organization? What are the best methods to accomplish? One of the aims of the present study is to attempt an answer to this latter question.

Since turnover can have such a major effect on the bottom line, it is not surprising that researchers have concentrated much effort on elucidating its causes and determinants. I shall briefly present below a review of the major turnover models and developments.

REVIEW OF VOLUNTARY TURNOVER MODELS AND DEVELOPMENTS

Most early turnover models can be linked to March and Simon's (1958) concepts of *desirability of movemen*t and *perceived ease of movement*, which are typically operationalized as work attitudes and perceived alternative opportunities, respectively. March and Simon (1958) describe perceived desirability of movement as being primarily determined by job satisfaction, which is what it has evolved to mean in the turnover research (Jackofsky & Peters, 1983; Lee, Mitchell, Wise, & Fireman, 1996).

March and Simon (1958) characterized job satisfaction as a multifaceted function of several diverse factors, such as monetary rewards, type of supervision, and participation in job assignment decisions. In the vast subsequent turnover research, job satisfaction has been "understood to be one's affective attachment to the job viewed either in its entirety (global satisfaction) or with regard to particular aspects (facet satisfaction; e.g., supervision)" (Tett & Meyer, 1993: 261).

Job satisfaction plays a major role in virtually all turnover theories (Lee & Maurer, 1999) and operates as the key psychological predictor in most turnover studies (Dickter, Roznowski, & Harrison, 1996).

Numerous reviews have concluded that job satisfaction is negatively related to voluntary turnover (e.g., Cotton & Tuttle, 1986; Mobley, Griffeth, Hand, & Meglino, 1979; Price, 1977; Tett & Meyer, 1993). Cotton and Tuttle's (1986) meta-analysis

demonstrated that this relationship held for overall satisfaction as well as for specific job satisfaction facets, and Tett and Meyer's (1993) meta-analysis indicated that overall job satisfaction's prediction of voluntary turnover was equally strong for global and sum-of-facet measures. Job satisfaction's correlation with turnover has been reported in meta-analytic findings as -.24 (Tett & Meyer, 1993), -.28 (Steel & Ovalle, 1984), -.18 (Hom, Caranikas-Walker, Prussia, & Griffeth., 1992), and -.19 (Griffeth, Hom & Gaertner, 2000).

In addition to job satisfaction, as March and Simon (1958) pointed out, there are other predictor variables which have been tested in relationship with turnover. A glimpse at the major 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 predictor variables: **job or work attitudes** (mainly understood in terms of job satisfaction *and* organizational commitment) and **ease of movement** (understood in terms of perceived alternatives *and* job search behaviors) (See Figure 1). I briefly talked about job satisfaction, presenting how it correlates with turnover. Organizational commitment, the second major predictor in the job or work attitudes category has also been shown to negatively correlate with turnover (e.g., Jaros, 1997).

The psychological processes through which job dissatisfaction prompts voluntary turnover have been researched at length in cognitively oriented models, with thoughts of quitting, search intentions, and quit intentions emerging as common mediators (e.g., Bannister & Griffeth, 1986; Dalessio, Silverman, & Schuck, 1986; Hom et al., 1992; Hom, Griffeth, & Sellaro, 1984; Hulin, Roznowski, & Hachiya., 1985; Mobley et al., 1979). I will talk more about this in the following pages.

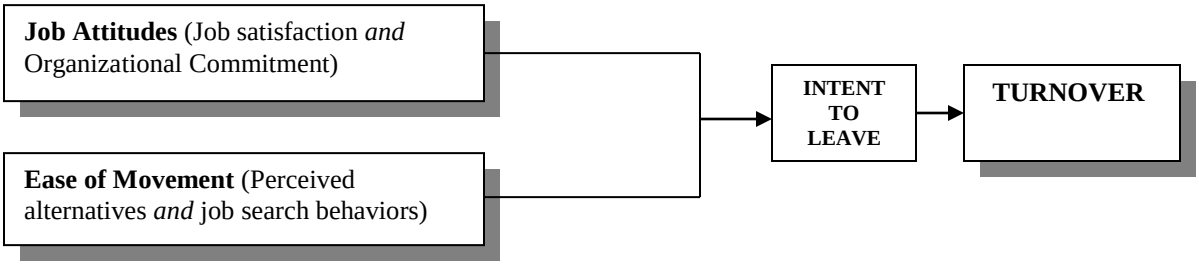

FIGURE 1: Traditional Turnover Models

Desirability and ease of movement were thought to account for much variance in turnover and, traditionally, leaving was explained as a decisional process following the route of job dissatisfaction / alternatives search and comparison / decision to leave or to stay (Mobley, 1977). These two factors - job alternatives and job satisfaction - combine and predict the **intent to leave**, which is a precursor of actual leaving.

Apart from these two important factors that explain variance in turnover, studies have documented other antecedent turnover precursors, which equate to distinct types of psychological forces that are thought to motivate quitting. They can be summarized as in Figure 2. I shall briefly discuss each of these factors.

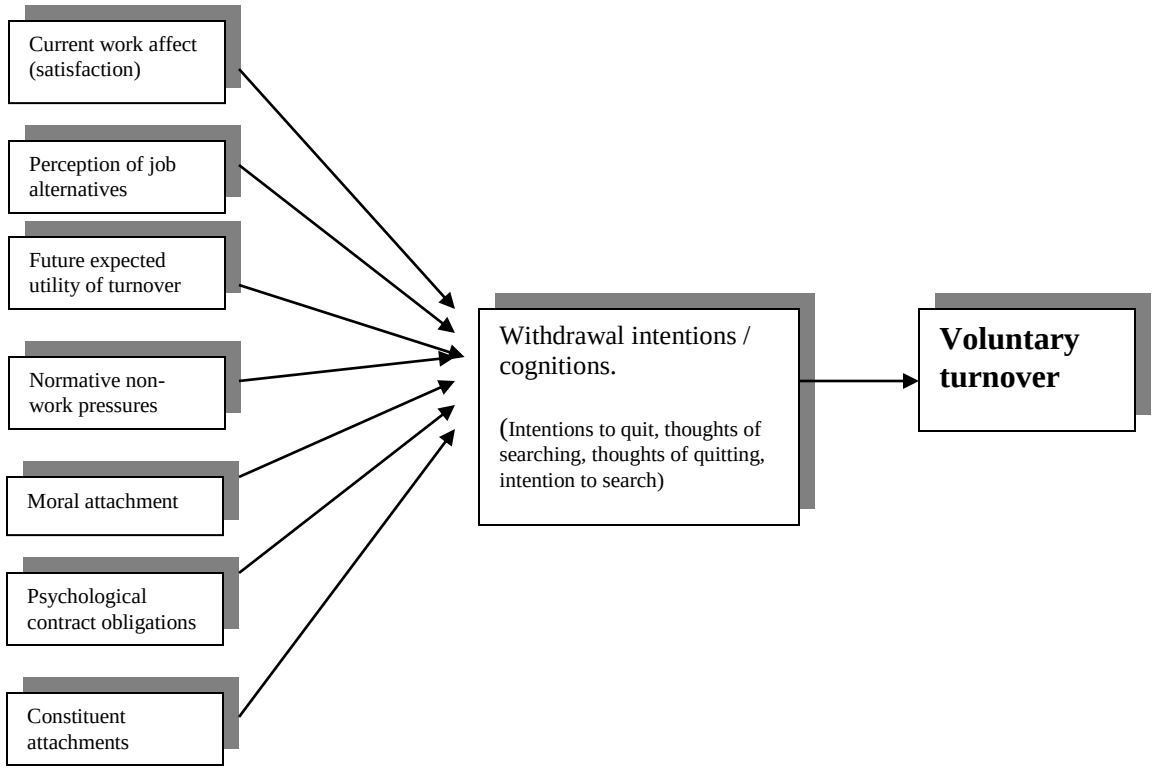

FIGURE 2: Major antecedent forces affecting voluntary turnover intentions and decisions (Maertz & Campion, 1998).

Of all factors that influence voluntary turnover decisions, intention to quit has demonstrated the highest, most consistent bivariate relationship with turnover (r = 0.50) (Steel & Ovalle, 1984). Other studies reported meta-analytic correlations between multiple item measures of turnover intention and turnover of r = 0.65 (Tett & Meyer, 1993). Withdrawal cognitions are not only intentions to quit. They can also be thinking of searching, thinking of quitting, and intention to search. These factors have yielded positive correlations with turnover behaviors (rs = 0.30 – 0.50) (Hom et al., 1992). All these factors have been recently thought of as parts of a general withdrawal cognition 'syndrome' (Hom & Griffeth, 1991) as illustrated in Figure 2. In short, turnover intention is one of the best predictors and the proposed immediate precursor of quitting (Steel & Ovalle, 1984).

Let me briefly present how the concept of the general withdrawal syndrome has developed historically. Fishbein and Azjen (1975) stated that general attitudes should relate strongly to a class of behavioral responses, not to specific behaviors. Hulin (1991, in press) proposed that empirical research on work attitudes should relate to a pattern or syndrome of withdrawal, rather than to quitting or absenteeism behaviors alone. Aside from absenteeism and quitting alone, this syndrome would include psychological withdrawal such as daydreaming, shirking, behaviors to change job outcomes such as stealing, moonlighting on the job, behaviors to change the work role itself such as unionization, transfer attempts, retaliatory measures such as sabotage, violence, or other cognitive adjustments. According to Rosse and Hulin, (1985), these behaviors stem from relative dissatisfaction and fulfill the same basic purpose: adapting to a dissatisfying work situation. The future use of these behaviors depends on their success in improving relative satisfaction (Rosse & Hulin, 1985), and the initial choice of these behaviors depends on a number of perceived opportunity constraints and personal factors (Rosse & Miller, 1984).

The validity of the general withdrawal construct has been supported by several studies, and refuted by others. Primarily there is the indirect evidence in the form of significant shared variance among withdrawal behaviors (e.g., Mitra, Jenkins & Gupta, 1992). On the other pole, Steers and Mowday (1981), and Price and Mueller (1981) have argued that alternative withdrawal behaviors are separate and distinct behaviors from voluntary turnover and therefore should be studied separately.

Figure 2 reveals that the anticipation of satisfaction is a relevant determinant of turnover, distinct from current affective responses based on past experiences (Forrest, Cummings, & Johnson, 1977). Future prospects on the current job and those on an alternative job help determine turnover intentions (Mobley et al., 1979). In other words,

people will calculate the investment losses in their current membership and expected future gains from an alternative and make the corresponding decision.

Of course, people are subjected not only to 'internal' influences; they are also under normative pressures. People live in a social environment and they are subject to social and normative pressures from their peers, friends, or family members. Prestholdt, Lane, and Matthews (1987) found that by using normative measures, a higher portion of variance in resignation than with attitude measures alone was explained. Normative beliefs are perceived expectations of non-work referents regarding the employee's turnover behavior. They are psychological pressures to quit or stay, caused by significant others, friends, assuming that the individual wants to meet their expectations.

While normative forces depend on beliefs about how others feel and would react to one's quitting, moral attachment, another factor thought to influence the decisions to stay or leave, is an internalized individual value and as such it may be more stable across situations. Moral commitment or attachment is a value of loyalty or general duty, causing one to persist at an organization. Moral commitment has shown to be negatively linked with turnover (Jaros, Jermier, Koehler & Sincich, 1993). Of course, in today's turbulent job markets, this may be increasingly rare, and perhaps it can be thought of as a continuum, with the opposite end being the internalized value that changing jobs is a virtue (Maertz & Campion, 1998).

The psychological antecedents briefly summarized above can each be linked to behavioral intention to quit through the established models of individual behavior (i.e. Fishbein & Azjen, 1975; Triandis, 1975). In the literature, however, there are other forces relevant to turnover decisions, which have not been incorporated in multivariate turnover models. They are *psychological contracts* and *constituent attachments*, the last two factors illustrated in Figure 2.

Psychological contracts are related to equity perceptions. Rousseau (1989) defines psychological contracts as a set of individual beliefs about reciprocal obligations in an employment relationship, not involving a third party observer. Robinson, Kraatz & Rousseau (1994) argue that there are two major types of perceived reciprocal obligations between employer and employee: 1) formalized, like salary, merit pay in exchange for giving notice, accepting transfers or keeping company secrets and 2) less tangible, like job security, training, in exchange for loyalty, overtime, or extra-role behaviors. Failures to meet the employee's expectation under the contract can constitute a violation of the psychological contract, which, in turn, may lead to a decrease of the amount the employee feels s/he owes to the organization. This, in turn, may induce an employee to quit immediately or more readily in the future (Maertz & Campion, 1998). Psychological contracts have not yet been incorporated in turnover models, and further research should address this.

The last of the factors illustrated in Figure 2 represents constituent attachments. The concept comes from the work of Reichers (1985) who argued that employees can become committed not only to the organization as a whole, but also to constituents within it, such as coworkers, supervisors, mentors, teams, unions. Such attachments act against quitting, because people are more psychologically attached to the organization. While voluntary turnover models do not typically consider the impact of one's personal relationships, research has shown that attachments to supervisors and coworkers are empirically related to quitting (Becker, 1992). Working in teams, or with groups, or on certain long-term projects, create certain types of commitments other than attraction one has for his/her job. In practice, we see companies that use working in teams to induce commitment (e.g. Cohen & Bailey, 1997).

With the antecedent forces of turnover analyzed, research addressed causal linkages among them. More exactly, researchers concentrated on examining the steps in the turnover decision process. The developments under this paradigm are usually called "process models", with Mobley's (1977) approach being the prototype. Mobley (1977) based his model on the assumption that intent to quit or stay is the cognitive event immediately preceding turnover behavior. He proposed intermediate linkages in the voluntary turnover decision between dissatisfaction and intention to quit. Briefly, his model asserts that following an 1) evaluation of the job, experienced dissatisfaction leads to 2) withdrawal cognitions, which lead to 3) an evaluation of the utility of a job search. A positive utility yields 4) an intent to search for a job followed by the 5) search itself. Subsequently, an evaluation occurs of the alternative(s) found comparing it to the current job. An unfavorable comparison leads to an intention to quit, then leading to voluntary turnover. This model is logical and compelling, although Mobley recognized that quitting may also occur in an impulsive manner, following an entirely different pathway than that proposed in his model, but he does not elaborate on this. I will address this issue when I discuss the unfolding model of turnover.

Later developments of Mobley's (1977) model added new factors, such as individual values, job perceptions, and labor market perceptions, which determine 1) the expected utility of the current job 2) expected utility of alternatives, and 3) current job satisfaction (Mobley et al, 1979). These three elements form withdrawal intentions, presumably by way of linkages proposed by Mobley (1977).

Though interesting, this integrative model generally received less empirical support than a reduced linkage model presented in Hom et al. (1992, p. 905), which essentially links dissatisfaction to withdrawal cognitions, and then to turnover. The Hom et al. (1992) model seems the most empirically defensible representation of the basic

steps in the turnover decision process (Maertz & Campion, 1998). Despite these advancements, there is still uncertainty in regard to which steps, if any, occur during turnover decision processes. Empirical studies provided support to different variations in the linkages proposed in different models, and this seems to suggest that a certain psychological process does occur. More research needs to be done to directly assess these steps, using different experimental procedures. The survey data used in past empirical studies did not directly examine how the decision process occurs.

Other turnover models made incremental contributions beyond intermediate causal linkages alone. For instance, Muchinsky and Morrow (1980) included in their model individual factors, work related factors, and economic opportunity factors as precursors to turnover. The authors de-emphasized the behavioral intention construct as the single precursor to turnover, and stressed that alternative opportunities have the strongest direct impact on turnover. They also suggested that individual and work-related factors interact and have effects on turnover, mediated through opportunities. In their support, Michaels and Spector (1982) posited that alternative opportunities have a direct positive influence on turnover behavior, not mediated through satisfaction or intention. Other authors also linked job alternatives to turnover intentions and job satisfaction. For example, researchers have argued that low perceived alternatives block the enacting of withdrawal intentions (Hom, Griffeth & Sellaro, 1984) and high unemployment discourages dissatisfied employees from developing firm decisions to seek alternatives or to resign (Hom et al., 1992, p. 893). Conversely, predictor relationships are stronger when the perceived number or quality of alternatives is high, because attitudes and intentions can be enacted more easily. If true, this perspective implies that people are generally averse in turnover decisions. Trevor, (2001) found that job satisfaction appears

to have a negative effect of greater magnitude when jobs are plentiful and his study was the first published non-meta-analytic study to document this effect.

In short, several relationships among alternatives, affect, and turnover have emerged in models, besides those based on Mobley (1977). Perceived alternatives may act directly on turnover behavior, they may influence turnover through satisfaction, or they may moderate the effects of affect or intentions on quitting.

All these developments, while interesting and very promising, leave many blanks in the analysis of quitting decisions. Mobley's (1977) model and variations were most influential and most often studied. Despite these advancements, a somewhat simplistic view of quitting was portrayed in most of these models. Traditional models have assumed a step-by-step, rational decision process that has never been directly validated. Lee and Mitchell (1994) state that "in short, over 17 years of research on traditional turnover models suggests that many employees may leave organizations in ways not specified by the traditional models" (pg. 56).

Since then, progress has been made in the analysis of moderators, other determinants, and macro-factors in voluntary turnover research. Coherent theories considering moderators and macro factors are few, and the existing models seem generally to underestimate the complexity of turnover decisions which occur in different populations of employees. Some of these factors are the effect of job interviews on employee tenure, unemployment, organizational culture, national culture, job search and the effect of personality traits on decisions to quit. I will briefly present below each of these dimensions.

Personnel selection has been found to influence turnover and some researchers studied whether job interviews could be predictors of turnover. A meta-analysis found that interviews modestly predicted job tenure (McDaniel, Whetzel, Schmidt, & Maurer,

1994). Schmidt and Rader (1999) however, documented that an empirically developed structured telephone interview could accurately forecast tenure (.39).

Labor market, particularly unemployment, can impact predictive relationships (Steel & Griffeth, 1989). The intentions-turnover relationship is weaker with scarce job opportunities, as shown by Carsten and Spector (1987). It also appears that occupational unemployment (within one's job type) is the stronger moderator in general than other unemployment indicators (such as perceived alternatives), which suggests that opportunities within one's job title are more relevant in turnover considerations than aggregated rates across occupations (Hom et al., 1992). The smaller predictive relationships for perceived alternatives could be explained by the fact that actual labor market conditions do not transfer directly into employee perceptions of their personal alternative opportunities (Gerhart, 1990).

Abelson and Beysinger (1984) called for a more **organization-level perspective** on turnover. Prior to this approach, the majority of the models had been concerned with the individual level. It is well known that organization-level variables have been positively linked to turnover. Such variables are high centralization, high routinization, low integration, low communication, and policy knowledge (Price & Mueller, 1981).

Other approaches that link organizational culture to turnover emphasized human resources practices and strategies. It has been argued that these strategies create organizational environments that can oppose or encourage voluntary turnover (Kerr & Slocum, 1987). These authors argued that cultural values of team work, security and respect for individuals would foster greater retention than values of initiative and individual rewards. Sheridan (1992) showed that an organizational culture which emphasized interpersonal relationships improved retention by an average of 14 months.

Other studies showed that human resources management practices predict quit rates and discharge (Shaw, Delery, Jenkins & Gupta, 1998).

National culture can also be a factor which influences turnover decisions. Turnover models have been developed mostly in English speaking countries and can be ethnocentric. Differences in values and social norms across cultures may influence quitting in many ways. For instance, normative forces are more likely to be important for turnover decisions in collectivist cultures (such as Japan) rather than in individualist cultures (such as US). Or, some cultures may value loyalty to an organization more than others (Randall, 1993). As society moves toward globalization, particular attention should be placed on these aspects, and it should be recognized that turnover models cannot be applied or transferred to other cultures without factoring in the cultural variable.

Job search was introduced as a variable, or intermediate link, between dissatisfaction and turnover, in early models (March & Simon, 1958; Mobley, 1977). Some studies showed that job search was a better predictor of turnover than even turnover intentions (Bretz, Boudreau & Judge, 1994). The reason I discuss job search at the end of this paragraph is that some authors believe that it should be considered distinct from turnover models. Bretz, et al., (1994) argued that job search should be considered separately from turnover models alone, as there are other purposes for job search besides turnover. Such purposes can be one's desire to evaluate himself against the market, or to collect bargaining information by finding out salary ranges. As such, job search is not necessarily a predecessor to turnover. The authors also suggested that there are two types of antecedents to job search: pull forces from outside the organization and push forces, originating within the organization. Push forces were found most influential on search motivation (Bretz, et al., 1994). The authors also found a negative correlation between

job search and human capital, but a positive correlation between turnover and human capital, which suggests that higher level employees may not need to engage in extensive search in order to find an alternative or to quit, because informal information gathering may take the place of formal search.

Historically, investigators used measures of job search emphasizing either general effort in job search (e.g., Feather & O'Brien, 1986; Hom & Griffeth, 1991; Hom et al., 1984) or specific job search behaviors (e.g., Dyer, 1973; Kanfer & Hulin, 1985; Kopelman Rovenpor, & Millsap., 1992).

For example, Hom et al. (1984) asked individuals such questions as: how much effort they expended in their job search, activeness (never defined) of search, and how much time they spent looking for a job. General-effort job-search scales, containing items measuring effort and time, may not be as effective in explaining subsequent turnover behavior because a general-effort job-search measure does not test how an individual searches (i.e., what that person specifically does or does not do).

Expanding on this, Blau (1993) hypothesized that job search take place in two stages: preparatory and active. Preparatory stage represents the effort to gather job search information, while active stage refers to various means of soliciting a job. Blau (1993) created an overall search scale and supported a three-factor structure with preparatory job-search behavior, active job-search behavior, and general-effort job search. He also showed that active job search has the strongest relationship with voluntary turnover of the three types, and that it has incremental predictive validity beyond work attitudes and withdrawal cognitions. Blau's (1993) study tested the usefulness of a new job-search behavior measure to account for voluntary turnover beyond more frequently tested work-attitude and withdrawal-cognition variables. Using two samples, 339 registered nurses and 234 insurance company employees, Blau (1993) found that active job-search

behavior had a stronger relationship to voluntary turnover than preparatory job-search behavior or general-effort job search, and it accounted for significant additional turnover variance beyond work-attitude and withdrawal-cognition variables.

The foregoing body of research placed less emphasis on **personality traits** or individual characteristics. Indeed, we would expect that certain personality traits correlate in one way or another with turnover and/or job search. For example, intelligence (cognitive ability) should factor in one's decisions to stay or leave an organization. Cognitive ability has a rich heritage of research in psychology, but its most noteworthy application to industrial-organizational psychology has been as a predictor of job performance. General cognitive ability test scores are one of the most consistently positive predictors of job performance (Schmidt, Ones, & Hunter, 1992), and they are most predictive for complex jobs, such as those of executives (Hunter, 1986). (There is evidence that these findings are not lost on employers, as the business press features companies such as Microsoft that heavily weigh intelligence in their selection practices (e.g., Seligman, 1997). In the light of these considerations, it seems reasonable to consider cognitive ability to be an element of human capital, contributing to an individual's "opportunity" to leave (Bretz et al., 1994). Further, those higher in cognitive ability are likely to perceive more opportunities, perhaps leading to increased motivation to search, as a way to seek out alternatives.

Indeed, though a relatively small number of studies specifically addressed the relationships between certain personality traits and turnover propensities, it has been shown that Cognitive Ability (operationalized through SAT scores), along with the Big-Five personality dimensions of Agreeableness, Neuroticism, and Openness to Experience related positively to job search, these effects remaining even in the presence of an array of situational factors previously shown to affect search (Boudreau, Boswell, Judge, &

Bretz Jr., 2001). The authors also found that the relationship between Extraversion and job search was significant and positive in the presence of situational factors, particularly job satisfaction.

The Unfolding Model

One of the latest developments in the area of turnover research is Lee and Mitchell's (1994) Unfolding Model. Lee and Mitchell (1994) introduced a new decision-making perspective to the turnover research, utilizing multiple decision paths. As such, turnover decisions may be automatic, script driven, and may be the product of any one of the several decision strategies, most having different aims than expected utility maximization. The authors also speak about the so called 'shocks to the system', events that jar employees to deliberate judgments about their employment. Such shocks can include spouse relocation, for example.

The paths proposed by Lee and Mitchell (1994) were generally found to exist. Lee et al. (1996) used a qualitative interview methodology with nurses and found that, though in general paths proposed by Lee and Mitchell (1994) received some empirical support, there were several notable exceptions in that scripts, negative affect, and evaluation of the alternatives seemed to be more prevalent than previously thought.

These developments in turnover research suggests that the decisions are considerably more complex than indicated in previous models.

Conclusions

This rich body of research has shed light on some of the issues surrounding turnover decisions, but left many questions still unanswered. Recent meta-analyses have supported many of the factors that were thought to account for variance in turnover. Griffeth, Hom and Gaertner (2000), in their comprehensive meta-analytical study, have shown that personal characteristics have modest predictive strength for turnover, which is in accord with previous studies. There is virtually no correlation between cognitive ability and turnover, contrasting with the past estimate that more intelligent employees are less prone to quit. Interestingly, women's quit rate has been found similar to that of men's. The authors point out that this conforms to a recent labor economic finding that educated women actually resemble men in turnover rate and pattern (leaving to assume another job, not to abandon the labor market, which is a route taken by less educated female leavers (Royalty, 1998). Also, the meta-analysis found no correlation between race and turnover, indicating that the widespread accounts that minorities are more likely to quit are not well founded. In their analysis Griffeth, et al., (2000), found a negative correlation between overall job satisfaction and turnover (-.19), which is in line with previous findings.

The authors also found that the effect sizes for pay and pay related variables are modest in light of their significance to compensation theorists and practitioners. This is interesting and has immediate economic applications in that practitioners should first look at less costly measures when trying to control turnover, as they may be as, if not more, effective. Griffeth et al., (2000), argue that just organizational procedures have as much if not more to do with encouraging employees to stay as fair pay amounts. In support of this statement, one study showed that the perceived fairness of a merit-pay

distribution committed employees to their firm more than did satisfaction with the amount of the raise (Folger & Konovsky, 1989).

In line with past findings, Griffeth et al. (2000), also showed that the perceived alternatives modestly predict turnover (.12), though one of the acknowledged methodological issues in such studies is how perceived alternatives are operationalized.

As discussed earlier, Hulin (1991) advocated the conceptualization of a withdrawal response. In line with this approach, Griffeth, et al. (2000) found some predictive accuracy for lateness and absences, and, more importantly, the pattern of findings corroborates a progression-of-withdrawal response in which disgruntled employees progressively enact more extreme manifestations of job withdrawal over time (Rosse, 1988). In this progression lateness represents the mildest form of workplace withdrawal, while turnover the most extreme. Absences represent an intermediate withdrawal. Also as a behavioral predictor, performance was found to negatively correlate with turnover (-.15) suggesting that high performers are less likely to leave.

The latest meta-analysis of voluntary turnover shows that quit intentions remain the best turnover predictor (.38), outpredicting the broad construct of withdrawal cognitions. Recently, job search has been operationalized in more and more refined ways, and, importantly, newer operationalizations of job search are yielding remarkable levels of predictive efficacy – from .23 to .47. Previous studies assessed whether or not leavers carried out a job search and how much effort they spent searching. These recent developments in job search have considered the methods that leavers use to find other jobs. For example, the Kopelman et al. (1992) Job Behavior Index assesses the various ways job seekers locate alternatives (e.g. mailing resumes, contacting employment agencies) while Blau's (1994) scale taps "preparatory" and "active" job search.

In short, the Griffeth et al. (2000) meta-analysis showed that proximal precursors in the withdrawal process are among the best predictors of turnover. Such predictors include job satisfaction, organizational commitment, job search, comparison of alternatives, withdrawal cognitions, and quit intentions. The authors also demonstrated small to moderate effect sizes for predictors which prevailing theories presume to be more distal in the termination process (e.g. Mobley, 1977; Price & Mueller, 1986). Such distal determinants are characteristics of the work environment (job content, stress, work group cohesion, autonomy, leadership, and to a lesser extent distributive justice and promotional chances). Other distal causes represent factors external to the firm such as alternative job opportunities. Demographic attributes did not show any predictive value on turnover, with the exception of company tenure and number of children.

THE EMBEDDEDNESS MODEL

Although the above-mentioned studies have generally found significant correlations between turnover and different attitudinal variables, the results are modest. According to Hom and Griffeth (1995), attitudinal variables (satisfaction and commitment) account for less than 5% of the variance in turnover. Moreover, the effects of perceived opportunities on leaving are even weaker (Steel & Griffeth, 1989) but the effects of search intentions appeared to be slightly stronger (Griffeth et al., 2000).

Since traditional models have found only modest correlations, a number of researchers broke away from the traditional models, trying to identify other factors that might be good turnover predictors. Work of Hulin (1991), emphasizing a general withdrawal construct, is such an example. Other researchers investigated the effects of personality on turnover. Barrick and Mount (1996) and Chan (1996), for example, analyzed the effects on turnover of factors such as conscientiousness.

As described in the previous pages, the factors that were most often taken into account when analyzing turnover were on-the-job factors (e.g., satisfaction, commitment). However, it might be that factors other than job related also control a part of the variance in turnover. Indeed, a body of empirical research suggests that off-the-job factors are important. Non-work influences can be family attachments and/or conflicts between work and family roles. It has been shown that non-work commitments like hobbies, church, family, do influence job attitudes and attachment (Cohen, 1995). Other factors such as having children and a spouse at home have been found as being better predictors of leaving a job than organizational commitment (Lee & Maurer, 1999).

A very recent development in turnover research stems from Kurt Lewin's (1951) field theory, as well as from embedded figures theories (Witkin, Moore, Goodenough, &

Cox, 1977). Embedded figures are immersed in their field; they are connected through many links to elements within that space. They are hard to separate from the field and become an intrinsic part of that environment; they are a part of the surroundings (Mitchell, Holtom, Lee, Sablynski, & Erez, 2001). The rationale that led these researchers to look into this new conceptualization is that in many cases people who leave are *relatively satisfied* with their jobs, *don't search* for jobs, and leave because of a *precipitating event* (e.g. spouse relocates). This made the authors postulate that it is not one or another factor that is ultimately responsible for turnover, but it is rather an overall level of embeddedness with the environment, which may better predict intention to leave and actual turnover. Thus, job embeddedness is a construct that focuses on people's attachments to their job and community.

According to Mitchell et al. (2001), the critical aspects of job embeddedness are 1) the extent to which people 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. These make three dimensions (links, fit, and sacrifice), both on- and off-the job, which yields a 3x2 matrix (Figure 3).

	Links	**Fit**	**Sacrifice**
On the job	**Links with the organization**. Formal or informal connections between the person and work friends, work groups, etc. Social integration (O'Reily et al. 1989). Abelson, (1987).	**Fit with the organization**. Personal values, career goals and plans for the future must fit the corporate culture and job demands, career paths. Chatman (1991). Chan (1996), Villanova et al. (1994).	What would the person **sacrifice** if s/he left the **organization**. Perceived costs of leaving the organization (giving up colleagues, perks, projects) (Shaw et al. 1998). Stock options or benefit pensions (Gupta & Jenkins, 1980). Job stability and advancement, security, accrued advantages.
Off the job	**Links with the community** Abelson, (1987), Cohen (1995)	**Fit with the community**. Weather, amenities, general culture of the location of residence, outdoor activities, political and religious climates, entertainment etc.	What would the person **sacrifice** if s/he left the **community**. Schools quality, safety of the neighborhood. Most important when person relocates.

FIGURE 3. Dimensions of embeddedness.

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. Conceptually, the indicators are causes of embeddedness, not reflections or effects of it (MacCallum & Brown, 1993). For instance, being embedded does not cause one to go out and develop links with other people (by getting married, et cetera). Rather, those activities are the cause of embeddedness (Mitchell et al., 2001).

Since job embeddedness is not a unified construct, but a dimensional aggregate of the on- and off-the-job forces that might keep someone on the job, it is not expected that the dimensions be highly correlated with one another. In some cases they might (e.g. on-the-job links and fit) but in general such correlations are not expected. For instance, there is no reason to believe that on-the-job links will be related to off-the-job sacrifice, et cetera.

Differential analysis

Embeddedness is just one among many turnover constructs developed in organizational psychology literature. As discussed in the previous pages, the most widely cited constructs are attitudinal variables, among which job satisfaction and organizational commitment are most widely cited (Hom & Griffeth, 1995; Griffeth et al. 2000). Job involvement is also often researched, but not nearly as much as job satisfaction and organizational commitment.

While embeddedness overlaps with certain aspects of job satisfaction and organizational commitment, as well as with some aspects from other turnover

conceptualizations, it nevertheless has several sharp distinctions which makes it unique. Let me briefly present them below.

Embeddedness and Job Satisfaction

The main difference between embeddedness and job satisfaction constructs is that the first is both on-the-job and of-the-job, while the latter is only on-the-job. Moreover, the main instruments developed in the literature (e.g. Job Descriptive Index, Minnesota Satisfaction Questionnaire) include multiple dimensions that focus on one's work environment, supervision, pay, or co-workers. However, the sacrifice-organization is not captured under these instruments, as it does not include items assessing one's affective reactions to work, supervision, or co-workers. (It does, however, include items on compensation and benefits such as retirement or health care).

Embeddedness and Organizational Commitment

Organizational commitment has generated a multitude of construct definitions. Allen & Meyer (1990) use a three-dimensional model (normative, affective, and continuance commitment), which is most current and widely used. While embeddedness concerns both on the job and off the job factors, it follows that half of it is simply not covered by organizational commitment, which concerns only organizational issues. Affective commitment is conceptually different from job embeddedness. Affective commitment reflects one's liking of the job, whereas job embeddedness captures, along with these emotional factors, others, which are non-affective, such as the existence of a niche in the organization that matches one's talents. Moreover, the embeddedness construct is not driven by a sense of obligation, as is the case of normative commitment in the organizational commitment construct. Job embeddedness does have, however, more

similarities with the third dimension – continuance commitment - proposed by Allen & Meyer (1990). At a general level, items proposed by Allen & Meyers (1990) to assess continuance commitment are similar to sacrifice-organization. However, while Allen and Meyers (1990) include in this dimension items that assess perceived lack of alternatives, sacrifice-organization lacks such items (they are included as a separate sub-construct), and, moreover, the measures are more specific, addressing particular issues.

Other constructs that may overlap with embeddedness

Since attitudinal constructs are most widely used in the literature, I contrasted the embeddedness construct with them first. However, there are other constructs developed in the literature, which may overlap with parts of job embeddedness. Mobley's (1977) early turnover model included the costs of quitting, which may be "loss of seniority, vested benefits, and the like" (p. 238). In general, the research on costs of quitting includes three general items along with measures of the costs of searching. Thus, this construct is more general than the embeddedness construct in that it does not assess specific things to be given up and, also, includes search which, in the embeddedness model, forms a separate cluster or sub-construct.

The same claim can be made about another turnover construct, namely, Farrell and Rusbult's (1981) and Rusbult and Farrell's (1983) ideas of job investment. Specifically, they developed a four-dimension commitment model of predicting turnover (job rewards, job costs, alternative quality, and job investments). Job investments include factors that are intrinsic to the job like years of service or non-portable training (Rusbult & Farrell, 1983, p. 431) or resources that are external but nevertheless tied to the job, like housing arrangements, or friends at work. They constructed items to target these specific contributors to commitment with one item targeting losses incurred as a result of leaving

(All things considered, to what extent are there activities/events/persons/objects associated with your job that you would lose if you were to leave?).

The sacrifice-community and links-community dimensions are very similar with the idea of losing things by leaving. However, the authors also include an item targeting job investment (How much does your investment in this job compare with what most people have invested in their jobs?), which appears to invoke equity or fairness, which are absent from the sacrifice-organization measure. These considerations make the job investment construct more general, while embeddedness is more specific, as it targets specific factors one would give up by leaving.

Other constructs that bear resemblance with some aspects of job embeddedness are the ideas of person-organization fit (Schneider, 1987; Chatman, 1989; Kristof, 1996, Saks & Ashforth, 1997; Werbel & Gilliland, 1999) and organizational identity (Whetten & Godfrey 1998). The job embeddedness fit-organization dimension incorporates a number of separate fit ideas from the above-mentioned literature. For example, it is asked how well one perceives s/he fits with their co-workers, group, job, company or culture. But one difference is important: The job embeddedness construct asks about a general or overall fit, and this emerged as a necessity from the fact that there is confusion in the literature on the bases of fit (e.g., personality, values, needs, goals; Kristof, 1996). In this respect, the embeddedness construct is more inclusive than separate fit constructs in the literature (Mitchell et al, 2001). The fit-organization dimension appears to have some similarity with organizational identity, although a clear contrast and comparison are hard to make due to the fact that there is little agreement on the definition of the organizational identity construct. Mitchell et al. (2001) argue that the job embeddedness fit-organization dimension is fundamentally different from organizational identity in that fit is assessing the degree of similarity on a few specific dimensions. Other authors have much more

inclusive definitions, such as Ashforth (1998), who argues that fit involves the fusion of self and the organization.

Other constructs have some similarity with the links-community dimension of the job embeddedness construct. Among these, Price and Mueller's (1981) theory that kinship responsibilities may limit one's ease of movement. This variable is postulated by the authors as reflecting "obligations to relatives in the community" and uses items which target one's marital status, number of children, or number of relatives in the community. Other studies also pointed to family connections as important especially in the case of expatriates leaving job assignments (Shaffer & Harrison, 1998). Some authors suggested that relocation is gravely affected if a spouse or a significant family member does not want to move (Miller, 1976; Spitz, 1986; Turban, Campion, & Eyring, 1992). This kinship factor is very similar with the link-community dimension in the job embeddedness construct, but job embeddedness is broader in meaning. Link-community does not only focus on kinship, but also on other links with the community that may inhibit moving, such as home ownership, close friends living nearby, or community-organization links.

Yet other constructs that seem to bear some resemblance with job embeddedness are those emerging from the work of Fishbein (1967) and Ajzen and Fishbein (1977). Their attitude model suggests that behavior is affected by what others think you should do in a particular situation. The underlying idea is that people are socially pressured to comply with these expectations. This idea has materialized in a series of instruments in which the respondent responds to questions with respect to various reference groups such as friends, family, employer (Newman, 1974; Hom, et al, 1984).

However, the link-community dimension of the job embeddedness model is different from these constructs in significant ways, because it refers to links, other than

people, such as owning a home. Link-community refers only to off-the-job links, whereas subjective norm only refers to people who can be both on- or off-the-job. Lastly, the link-community dimension assesses links, not whether family or friends want one to quit his/her job.

Embeddedness as a Turnover Predictor

Job embeddedness has been shown to predict voluntary turnover beyond job satisfaction and organizational commitment, which are commonly employed when addressing this phenomenon. Using a sample of retail employees and another sample of 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. Job embeddedness was reliably measured as an aggregated score across items for fit in the organization, fit in the community, links to the organization, links to the community, sacrifice in leaving the organization and sacrifice in leaving the community.

More specifically, Mitchell et al (2001) tested whether job embeddedness had any relationship with employee intent to leave and subsequent voluntary turnover and they also tested whether job embeddedness improves the prediction of voluntary turnover above and beyond that predicted by job satisfaction, organizational commitment, perceived alternatives, and job search.

The general research strategy employed by Mitchell et al. (2001) was to assess *personal characteristics, job satisfaction, organizational commitment, job embeddedness, perceived alternatives and intent to leave* at time one and *actual turnover* at time two.

The two samples analyzed were a grocery store chain (177 respondents) and a community-based hospital (208 respondents). Both functioned in a very tight labor market (unemployment well below 5%).

Personal characteristics were collected using a simple fill-in-the-blank questionnaire, and targeted age, gender, marital status, job level, and seniority with the job, organization, and industry. *Job embeddedness* was measured using a questionnaire that the authors developed themselves, and which contained slightly modified items from traditional attitudinal measures, as well as unique items developed by the authors. *Job satisfaction* was measured using Spector's (1997) Job Satisfaction Survey in one sample, and a three-item cluster of items in the second sample. Spector's (1997) Job Satisfaction Survey is a 36-item measure of employee job satisfaction applicable specifically to service-oriented organizations. Overall job satisfaction was assessed through an averaged composite of all 36 items, and for the facets of job satisfaction, Spector's subscales were used. The three-item cluster contained the following items: "All in all, I am satisfied with my job". "In general, I don't like my job " (reverse scored). And "In general, I like working here". *Organizational commitment* was measured using Meyer and Allen's (1997) three-dimensional model, with an averaged composite of all items being used. For the three dimensions, Meyer and Allen's subscales were used. The j*ob alternatives* measure adapted two items from the Lee and Mowday (1987) study, and the items were: "What is the probability that you can find an acceptable alternative to your job?" and "If you search for an alternative job within a year, what are the chances you can find an acceptable job?"

The *job search behavior index* measured actual search activity and used the ten-item scale of Kopelman, et al. (1992), and includes questions such as "During the past year have you 1) revised your resume 2) sent copies of your resume to a prospective

employer, 3) read the classified advertisements in the newspaper, 4) gone on a job interview and 5) talked to friends or relatives about getting a new job?

The *intention to leave measure* was adopted from Hom et al. (1984), and contained three items: "Do you intend to leave the organization in the next 12 months?", "How strongly do you feel about leaving the organization within the next 12 months?" and "How likely is it that you will leave the organization in the next 12 months?". The authors used an averaged composite in the analysis.

Voluntary turnover data were collected from the organizations. Voluntary turnover was defined as in Maertz & Campion (1998): "instances wherein management agrees that the employee had the physical opportunity to continue employment with the company at the time of termination." Follow-ups with people who left the organization confirmed that they voluntarily decided to leave.

All of the hypotheses tested by Mitchell et al. (2001) were confirmed. In terms of convergent validity analysis, the authors showed that embeddedness was significantly correlated ($p < .01$) with job satisfaction and organizational commitment in both samples ($r_{grocery} =. 43$ and $r_{hospital} = .57$ for job satisfaction, and $r_{grocery} = .44$ and $r_{hospital =} .54$ for organizational commitment). Furthermore, *fit in the organization dimension*, which was hypothesized to be most closely related to these affective measures was significantly correlated ($p < .01$) with *job satisfaction* and *organizational commitment* ($r_{\text{job satisfaction grocery / hospital}} = .52$, and .72 and $r_{\text{organizational commitment grocery / hospital}} =. 58$ and .52).

Moreover, as stated, the non-affective dimensions of embeddedness appear only weakly correlated to the traditional measures of employee attachment. *Links to the organization*, for example, was not significantly correlated with job satisfaction ($r = 0.03$ and .10).

In terms of the correlations that exist between job embeddedness and turnover the hypotheses were also confirmed. Embeddedness correlated significantly ($p < .01$) and negatively with the intention to leave ($r_{grocery} = -.41$ and $r_{hospital} = -.47$). Also, the authors showed that embeddedness improved the prediction of voluntary turnover beyond that predicted by *job satisfaction* and *organizational commitment* (grocery / hospital improvement of fit chi-square = 2.58 p<.05/ 5.29 p<.01, Wald = 2.54 p<.05/ 4.95 p<.01, pseudo partial r = - .08 / -.14) and that predicted by *job search and perceived alternatives* (grocery/ hospital improvement of fit chi-square = 6.18 p<.01/ 7.36 p<.01, Wald = 5.65 p< .01/ 7.36 p<.01, pseudo partial r = - .20 / -.18). Moreover, the authors showed that embeddedness improved the prediction of voluntary turnover above and beyond that predicted by job satisfaction, organizational commitment (perceived desirability of movement), perceived alternatives and job search (perceived ease of movement) taken together (grocery/ hospital improvement of fit chi-square = 2.37 p<.06 / 5.67 p<.01, Wald = 2.31 p< .06 / 5.20 p<.01, pseudo partial r = - .06 / -.16). .

In other words, job embeddedness predicts turnover over and beyond a combination of desirability of movement measures and perceived ease of movement measures, 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).

One of the most important aspects that embeddedness acknowledges is the fact that off-the-job and non-affective factors can influence turnover. The embeddedness construct adds understanding to the extensive list of work and non-work factors that creates forces for staying in a job (Mitchell et al., 2001).

This study has been complemented by a follow-up replication and extension. Lee et al., (under review) replicated the Mitchell et al. (2001) empirical finding that job

embeddedness predicts subsequent turnover. Using a different sample from a well known financial corporation (sample size: 829 employees), the authors showed that: 1) the correlation between job embeddedness and turnover was negative and statistically significant, though small in magnitude ($r = -.13$, $p < .01$). 2) Job embeddedness significantly correlated with the intention to leave ($r = -.51$, $p <. 001$). Also, as in the other study, job embeddedness was negatively associated with voluntary turnover over and above job satisfaction, organizational commitment, job search and perceived job alternatives.

But the authors not only replicated the previous study. They also expanded it, analyzing the correlations between embeddedness and several facets of the general withdrawal construct. This construct, advocated by Hulin and associates (forthcoming), broadens the theory and research on turnover. The general withdrawal construct has many facets: it is made up of various withdrawal cognitions such as perceived job alternatives, intention to search, intention to leave, absenteeism, or job performance. Inspired by this new approach, Lee at al. (2002) found an incremental effect of job embeddedness on *voluntary absenteeism*, *organizational citizenship* and *job performance* over and above that of job satisfaction and organizational commitment.

Voluntary absenteeism is seen as an alternate form of leaving organizations. Conceptually, the *more* an individual is socially enmeshed (or job embedded) in the organization, the *less* likely he or she should be voluntarily absent. It has been shown that voluntary absences have a corrected weighted average correlation of .20 to .33, depending on which artifacts are corrected, with voluntary turnover (Griffeth et al., 2000).

Organizational citizenship behaviors are part of a larger family of "extra-role behaviors" (Van Dyne, Cummings & McLean-Parks, 1995). Most often, organizational

citizenship is seen as an employee's actions that help others better perform their jobs (e.g., training, advising or encouraging co-workers) and as enhancing organizational effectiveness (e.g., incurring individual opportunity costs for one's own job performance by helping others enhance their performance and thereby overall organizational functioning (Mitchell et al. 2001).

Job performance has not been traditionally conceptually linked with withdrawal constructs (e.g., March & Simon's, 1958, influential ideas about the separation of the decision to participate from the decision to perform). However, recent theorizing questioned this separation (e.g. Hulin, forthcoming, Trevor, 2001). In their comprehensive review, for example, Griffeth et al. (2000) report a corrected weighted average correlation of -.15 between job performance and voluntary turnover.

RESEARCH QUESTIONS

The following research question will be addressed in this study: *What are some possible antecedents of embeddedness?*

Preliminary considerations

As described in the pages above, the job embeddedness model evolved through testing correlations with turnover (both intentions and actual), job performance, voluntary absenteeism, and organizational citizenship. Job embeddedness was shown to correlate with all these factors, thus increasing our understanding of the concept. Thus far, research has essentially concentrated on analyzing the *outcomes* of job embeddedness and to my knowledge no study has addressed the problem of the *antecedents* of embeddedness. Studying antecedents of embeddedness I believe would be a real contribution to this model, as it would expand our understanding of the concept in the other direction. Thus, it would confer closure and completeness to an already very promising development. In practical terms, identifying the antecedents of embeddedness could potentially facilitate decisions in personnel selection. If a measurable factor (e.g., certain personality traits or attitudes about work) is shown to correlate with embeddedness, then that factor could be used in the selection process.

What exactly causes someone to be embedded? What are the antecedents of embeddedness? As Lee et al. (2002) 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. The items in the job embeddedness questionnaire measure the causal indicators of the six sub-dimensions for job embeddedness. More specifically, a latent factor is not theorized to drive its indicators. It

is not expected, for example, that job embeddedness will cause one to enjoy a commute, join more work teams or interact more with co-workers. Rather, these feelings and behaviors cause a person to become embedded. In terms of a path diagram, the causal arrow goes out from the causal indicators (items) to determine the six dimensions; and from the dimensions, the arrows go out to determine the aggregate construct.

But what is behind the causal indicators? What drives someone, for instance, to enter more easily into teams and make connections, which, in turn, will increase their embeddedness? Or, what causes one to become involved in the extra work of community activities that would make relocation harder?

My task in the following pages is to describe some of the possible antecedents of embeddedness, describe how I tested them, and draw an empirically-based diagram linking them to the embeddedness dimensions.

Defining the subject matter

Before beginning to describe the antecedents, I should mention that theoretically there may be many plausible contenders. Individual differences/personality traits may have relationships with embeddedness; people's perceptions about their skills or about the nature of their jobs/work environment may influence how embedded they are/become, certain demographics may enhance relationships with embeddedness. I would call all of these *individual factors*, because they relate, in one form or another, to the organizational actor, his modes of perception, his traits, and/or his personal circumstances.

On the other hand, there may also be organizational influences on embeddedness. Such influences could be, for instance, work-family balance programs, socialization, formal organizational training, certain human resources policies, etcetera. I would call these *organizational factors*, because they relate, in one way or another, to the modalities

in which an organization manages its taskforce. Of course, a precise distinction between 'individual factors' and 'organizational factors' cannot be drawn, as some factors can be viewed as both (e.g. socialization has both organizational and individual components). Empirically, the difference between the two resides in the difference between the modalities for testing them. Testing organizational antecedents of embeddedness would require finding ways to operationalize various human-resource programs and policies from various companies and testing embeddedness in samples of employees of those companies. The practical difficulties of conducting such a study should not be underestimated.

Because of these difficulties, in the following pages I will propose only potential antecedents that relate to the individual factors. As you will see, testing "individual" antecedents of embeddedness will require a different methodological approach than testing organizational antecedents. A large sample of people should be tested on various demographic/personality/perceptual dimensions, and these then empirically related to embeddedness. More detailed explanations on the methodology of the study will be given in the following pages.

In the light of these considerations, I theoretically expect that some significant variance in embeddedness will be unaccounted for by the proposed antecedents. We can merely speculate that this variance may be accounted for by 'organizational antecedents of embeddedness', for I have not been able to operationalize them in the present study.

ANTECEDENTS OF EMBEDDEDNESS AND PREDICTIONS

It is useful to group the possible antecedents of embeddedness in several categories: demographic variables, dispositions, work perceptions, and biological factors.

Demographic variables

In this category I include age, marital status, number of children, and tenure (organization tenure and community tenure). It has been shown that people who are older, are married, have more tenure and / or children in care are more likely to stay (Abelson, 1987). My goal is to link these variables with embeddedness, and, to this end, I hypothesize that age and tenure correlate with embeddedness. I also hypothesize that marital status and number of children correlate with embeddedness. Embeddedness is a multidimensional construct and tenure is a part of two of its dimensions (link-community and link-organization). Because of these reasons, I will only refer to tenure as an antecedent of some of the embeddedness dimensions that do not already contain it. The benefit of including tenure among the antecedents of embeddedness dimensions that do not already contain it is that the embeddedness dimensions are considered more or less independent, and it is important to know what predicts each of these dimensions.

1. Age: Age has been shown to moderate the effects of some organizational factors on the decisions to leave or stay with an organization. Using a sample of over 3,000 technical professionals from 6 large companies, Finegold, Mohrman, & Spreitzer, (2002) found that in comparison to those under 30, satisfaction with job security is more strongly related to the commitment of more senior workers (ages 31-45 and those over age 45) and to their desire to remain with their companies. The same study found that for the under-30's, satisfaction with opportunities to develop technical skills and pay linked to individual performance has a stronger negative relationship with willingness to change companies than for those over 45. Although indirectly this study addresses turnover, it does not tell us much about the precise relationships between age and turnover.

Age is a serious contender for an antecedent of embeddedness. Arguably, there will be a relationship between age and embeddedness in that younger people may be less likely to be highly embedded. Conceivably, older people have had substantial thoughts about past and current fit, links and sacrifice. In contrast, a 20-year-old (high school graduate but college dropout, or the about-to-graduate student looking for a full-time job in a tight market, or the graduate student who has a full-time "survival" job) would have had only minimal thoughts about fit, links and sacrifice (Mitchell et al., 2001). The role of age in job embeddedness appears important to a better understanding of the construct. As such, it merits theoretical and empirical consideration. My prediction is that older people will display higher levels of embeddedness than younger people on links-community and links-organization dimensions. Older people may have children attending schools in the neighborhood, they may be school board members, they may be friends with their children's friends' parents, or they may be active in various clubs (e.g., golf, chess, etc.). They also may have higher-level positions in organizations, along with a greater number of people that they supervise. All these strengthen and increase the number of attachments with the community and the organization. My first hypothesis, therefore, is:

Hypothesis 1: Age positively correlates with embeddedness.

Hypothesis 1A: Age positively correlates with links-community.

Hypothesis 1B: Age positively correlates with links-organization.

2. Time: While age may be a contender for embeddedness, there may be cases in which, although a person is not young any longer, s/he has recently relocated. As such, her/his links with the community may not be well consolidated. Consequently, this person would

not be highly embedded. Such a person may become more embedded as time goes by through initiating new contacts, or establishing new friends. Time spent in the community, rather than age per se, may therefore be a better contender for an antecedent of embeddedness in such a case. Therefore, my second hypothesis is:

Hypothesis 2: Community tenure predicts embeddedness beyond age per se.

Hypothesis 2A: Community tenure positively correlates with sacrifice-community.

Hypothesis 2B: Community tenure positively correlates with fit-community.

3. Strength of attachment: Some family variables are included in virtually all turnover models, but there is no agreement on what family characteristics are most relevant to quitting and how they might operate. Mobley et al (1979) assert that family responsibilities affect individual values, which, in turn, affect intentions to search and to quit. Steers and Mowday (1981) theorize that "non-work influences" interact with job attitudes to affect intention to leave. Hom and Griffeth (1995) argue that conflicts with work and extraorganizational loyalties affect organizational commitment, which is antecedent to withdrawal cognitions and expected utility of withdrawal. In general, three family structure characteristics have been more frequently studied in the organizational psychology literature: marital status, number of children and whether or not the spouse is employed (Lee & Maurer, 1999). Drawing from the sociological literature, Lee and Maurer (1999) argue that family structure directs the members' allocation of resources (time, money and effort) of its members; family structure can affect individual behavior via its social control of members (Thornton, 1991) and its direction of members' time and energy (Downey, 1995). Becker's (1991) human capital theory specifically argues that because of limitations in one's time and energy, employees must economize between

work and family. Family structure is suggested to affect voluntary turnover by increasing social controls (pressures) in the allocation of time and energy devoted toward (or away from) the job (or family). It has been shown that having a spouse, having an employed spouse, and an increased number of children at home, strengthen the effect of intention to leave on subsequent and actual leaving (Lee & Maurer, 1999).

People who are married are more likely to have integrated better in their communities. The likelihood that married couples develop friendships may be higher than in the case of singles, because in a couple both partners may bring in new acquaintances. In time, some of these will become common attachments. Some authors even suggested that relocation is gravely affected if a spouse or a significant family member does not want to move (Miller, 1976; Spitz, 1986; Turban, Campion, & Eyring, 1992). Consequently, I expect that strength of the attachment to a significant other correlates with embeddedness. Specifically, I predict that:

Hypothesis 3: Strength of attachment positively correlates with embeddedness.

Hypothesis 3A: Strength of attachment positively correlates with fit-community.

Hypothesis 3B: Strength of attachment positively correlates with sacrifice-community.

At the same time, being strongly attached (e.g., married) should decrease an individual's tendency to seek new friendships, because of the household commitments and less available time to spare outside the relationship. As most people spend a significant amount of their time at work, which is usually one of the main places to develop new friendships, I expect that strength of attachment acts against links-organization, precisely because people will be less actively seeking the company of other people.

Hypothesis 3C: Strength of attachment correlates negatively with links-organization.

4. Number of children in care: Independently of one's marital status, I believe that the sheer number of children and their ages are factors that influence a person's level of embeddedness within their community. People who have school age children 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 schools' quality, etcetera. Consequently, I expect such people to become more embedded in their communities, especially on the links-community dimension. My specific hypothesis is:

Hypothesis 4: Increased number of children in care positively correlates with embeddedness.

Hypothesis 4A: Increased number of children in care positively correlates with links-community.

Personality/Individual differences

In this category I include some of the Big Five traits and motivation. Some of the Big Five traits have been linked with turnover in previous studies (e.g., Barrick & Mount, 1991).

5. Big Five: It may be that some people become more embedded because they have certain personality traits that make them enter more easily in work teams or in long-term on-the-job and/or off-the-job partnerships. A propensity to join teams or to seek mentors may make these people become more embedded. In contrast, people who enter with difficulty in new relationships, or have difficulty in maintaining or nurturing business/personal relationships may be deficient on the links-community and links-organization dimensions. My argument is that personality is likely an antecedent to embeddedness.

In recent years it has been argued that all personality traits can be reduced to five basic factors. The Big Five traits include extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience. The Big Five are broad, global traits that are thought to be associated with behaviors at work (Nelson & Quick, 2003). The Big Five factors, according to Costa and McCrae (1992) (See also Salgado, 1997) are:

- **Extraversion** - the person is gregarious, assertive, and sociable (as opposed to reserved, timid, and quiet).
- **Agreeableness** - the person is cooperative, warm, and agreeable (rather than cold, disagreeable, and antagonistic).
- **Conscientiousness** - the person is hardworking, organized, and dependable (as opposed to lazy, disorganized, and unreliable).
- **Emotional stability** - the person is calm, self-confident, and cool (as opposed to insecure, anxious, and depressed).
- **Openness to experience** - the person is creative, curious, and cultured (rather than practical with narrow interests).

There have been only a few studies that directly addressed the link between personality and turnover (Griffeth et al., 2000) and no study linking personality and embeddedness. It has been shown that several of the "Big Five" personality factors, measured by the NEO Personality Inventory – conscientiousness, agreeableness, and openness to experience – can predict turnover or tenure (Barrick & Mount, 1991). Another study found that some of the Big Five personality dimensions can exhibit predictive validity for long-haul truck drivers. (Conscientiousness ([rho] = -.26 and -.26 for two samples) and emotional stability ([rho] = -.23 and -.21 for two samples) were valid predictors of voluntary turnover.) In short, conscientious and emotionally stable truckers are less likely to leave. The uncorrected correlation between those two personality traits and turnover (measured six months after personality testing) was about -.20 (Barrick & Mount, 1996). These findings suggest that individuals with high turnover propensities can be identified prior to organizational entry. Other studies have linked Big Five factors to job search behaviors in that agreeableness, emotional stability, and openness to experience related positively to job search, these effects remaining even in the presence of an array of situational factors previously shown to affect search (Boudreau, Boswell, Judge, & Bretz Jr., 2001). These authors also found that the relationship between extraversion and job search was significant and positive in the presence of situational factors, particularly job satisfaction.

In linking personality with embeddedness, I argue that extraversion, agreeableness and conscientiousness of the Big Five factors correlate with embeddedness. People who are agreeable and extraverted enter more easily in relationships, they make friends easier, which, in turn, enriches the net which surrounds them and should make breaking the attachments more difficult. Of course, the opposing argument can be made, that is, extraverted and agreeable people may actually become better networked, which, in turn, may increase the probability of receiving unsolicited job

offers. Consequently, extraverted and agreeable people may also acclimate more easily to new places, thus lowering the psychological costs associated with moving/turnover. In other words, a negative correlation between these factors and sacrifice-organization may be observed. Consequently, such people may actually display higher levels of turnover, despite scoring more highly on embeddedness dimensions.

In the same line of arguments, 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. Such people should become more embedded in their organization, which will negatively affect their decisions to leave.

In short, my hypotheses are that conscientiousness, agreeableness and extraversion positively correlate with embeddedness.

Specifically, my hypotheses are:

Hypothesis 5. Agreeableness, Extraversion and Conscientiousness are predictors of embeddedness.

Hypothesis 5A. Agreeableness positively correlates with sacrifice-organization.

Hypothesis 5B. Agreeableness positively correlates with sacrifice-community.

Hypothesis 5C. Conscientiousness positively correlates with fit-organization.

Hypothesis 5D. Extraversion positively correlates with links-organization.

6. Motivation: Some people seem to be driven by a passionate interest in their work, a deep level of enjoyment and involvement in what they do. This is what psychologists have, for several decades, called intrinsic motivation: the motivation to engage in work primarily of its own sake, because the work itself is interesting, engaging, or in some way

satisfying. The opposite of intrinsic motivation is extrinsic motivation, where people seem to be motivated more by external inducements in their work. Three recent research programs (Harter, 1981; deCharms, 1968; Deci & Ryan, 1985b) have treated intrinsic-extrinsic motivational orientations as variables that are, to some extent, traitlike, that is, as *enduring* individual-differences characteristics that are relatively stable across time and across situations.

The nature of the relationship between intrinsic and extrinsic motivation is not as straightforward as it might appear at a first glance. The common implication in contemporary theories is that the two work in opposition. For example, Lepper and Greene's initial theorizing (1978) proposed that individuals' intrinsic motivation will decrease to the extent that their extrinsic motivation increases, a position implicitly held by other theorists.

Recent research, however, suggests that under some circumstances, intrinsic and extrinsic motivation need not work in opposition (Deci & Ryan, 1985a). Amabile, Hill, Hennessey, & Tighe (1994) provide some suggestive evidence of additive effects of the two types of motivation. Children whose intrinsic motivation toward schoolwork was bolstered by training subsequently showed higher levels of creativity under external reward conditions, in contrast to nontrained children, who showed lower levels of creativity under reward (Amabile et al., 1994; Hennessey, Amabile, & Martinage, 1989).

Amabile et al (1994) developed an instrument (Work Preference Inventory) to assess intrinsic and extrinsic motivation applicable both to students and employed adults. The Work Preference Inventory was designed as a direct, explicit assessment of individual differences in the degree to which adults perceive themselves to be intrinsically and extrinsically motivated toward what they do. The scales were created to

be scored independently, guided by the underlying assumption that intrinsic and extrinsic motives might coexist.

Items for the Work Preference Inventory were written so as to capture the major elements of both intrinsic and extrinsic motivation. For intrinsic motivation the components are: 1) self-determination (mastery orientation and preference for challenge) 2) competence (mastery orientation and preference for challenge) 3) task involvement (task absorption and flow) 4) curiosity (preference for complexity) and 5) interest (enjoyment and fun). For extrinsic motivation the components are: 1) evaluation concerns 2) recognition concerns 3) competition concerns 4) a focus on money or other tangible incentives 5) a focus on dictates of others.

Amabile et al (1994) showed that there was little support for the assumption that intrinsic and extrinsic motivation are polar opposites, with people falling into one discrete category or the other. Indeed, individuals can simultaneously hold strong intrinsic and extrinsic orientation, and intrinsic and extrinsic motivational orientations could be well understood as two unipolar constructs. Based on these considerations, Amabile et al (1994) suggest that individuals can be divided into four types: dually motivated, intrinsically motivated, extrinsically motivated, and non-motivated.

I believe that intrinsic and extrinsic motivational dispositions can be related to embeddedness. Since intrinsically motivated people extract their passion for work from within, it is likely that they will experience a greater fit with the than extrinsically motivated individuals, all else being equal. Also, since their satisfaction is primarily generated by internal motivations, leaving the company would not incur high perceived sacrifices even if they are to give up some accrued benefits. On the other hand, perceived sacrifices will likely be high in individuals who extract satisfaction from external rewards. As such, I posit that intrinsic motivation will positively correlate with fit-

organization, while extrinsic motivation will positively correlate with sacrifice-organization when the person is relatively satisfied with their benefits.

Specifically, my hypotheses are:

Hypothesis 6. Motivation correlates with embeddedness

Hypothesis 6A: Intrinsic motivation correlates positively with fit-organization

Hypothesis 6B: Extrinsic motivation correlates positively with sacrifice-organization.

Perceptions about work

Predictably, certain work experiences will have an influence on the level of embeddedness of a person in an organization. Some of the work experiences discussed in the analyses of the antecedents of organizational commitment are perceived organizational support, perceived role ambiguity, leadership and justice (Meyer, Stanley, Herscovitch, & Topolnytsky, 2002). I see some of these also as possible antecedents of embeddedness:

7. 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. Role ambiguity, which is sometimes referred to by the contrasting term, role clarity, 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.

Beard (1999) observed that role ambiguity is a cause of many negative or detrimental consequences for the individual and the organization, including job dissatisfaction, stress, and propensity to leave the organization. These consequences have been confirmed through various studies (e.g., Hammer & Tosi, 1974) and meta-analyses (e.g., Jackson & Schuler, 1985). More recently, Fried and Tiegs (1995) reported that role ambiguity is also directly associated with how supervisors perform (i.e., over-inflating their rating of employees).

I believe that role ambiguity can be linked to embeddedness, more specifically to fit-organization. A perceived high role ambiguity will directly affect the perception of fit with the organization. Therefore, I see role ambiguity as a precursor of this specific dimension of embeddedness.

Hypothesis 7: Role ambiguity negatively correlates with embeddedness.

Hypothesis 7A: Role ambiguity negatively correlates with fit-organization.

8. Perceived [organizational and supervisor] support:

Organizational support theory (Eisenberger, Cummings, Armeli, & Lynch, 1997; Eisenberger, Huntington, Hutchison, & Sowa, 1986; Shore & Shore, 1995) supposes that to meet socioemotional needs and to determine the organization's readiness to reward increased work effort, employees develop global beliefs concerning the extent to which the organization values their contributions and cares about their well-being (perceived organizational support, or POS).

In various studies, employees showed a consistent pattern of agreement with various statements concerning the extent to which the organization appreciated their contributions and would treat them favorably or unfavorably in differing circumstances

(Eisenberger, Fasolo & Davis-LaMastro, 1990; Eisenberger et al., 1986; Shore & Tetrick, 1991; Shore & Wayne, 1993). Employees evidently believe that an organization has a general positive or negative orientation toward them that encompasses both recognition of their contributions and concern for their welfare.

Just as employees form global perceptions concerning their valuation by the organization, they develop general views concerning the degree to which supervisors value their contributions and care about their well-being. This evolved to be known as *perceived supervisor support*, or PSS (Kottke & Sharafinski, 1988).

Perceived organizational support has been shown to reduce absenteeism (Eisenberger et al, 1986). Also, perceived supervisor support was found to positively relate to temporal change in perceived organizational support, suggesting that perceived supervisor support leads to perceived organizational support (Eisenberger et al., 2002). Also, the PSS-POS relationship increased with supervisor status in the organization. Evidence is consistent with the view that perceived organizational support completely mediated a negative relationship between perceived supervisor support and employee turnover. 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 would 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.

I see the causal link going from these work experiences (role ambiguity/confusion and organizational/supervisor support) to determine/effect embeddedness, not vice versa.

I don't see embeddedness causing increased perceived role ambiguity and decreased perceived organizational support. On the contrary, I see these factors as antecedents - coming into play after the organizational entry - which will affect specific dimensions of embeddedness.

My specific hypotheses are:

Hypothesis 8: Perceived support positively correlates with embeddedness.

Hypothesis 8A: Perceived support positively correlates with sacrifice-organization.

Hypothesis 8B: Perceived support positively correlates with fit-organization.

Under the perceptions about work category I also include alternatives (opportunities), investments (in the actual job/organization), and transferability of education/skills. Transferability of skills and education have been shown to correlate with continuance commitment (ρ's = -.22 and -.31) (Meyer et al., 2002). Similarly, alternatives (number and quality) were found to negatively correlate with continuance commitment in meta-analyses of organizational commitment (Meyer et al, 2002).

9. Alternatives: The perceived number, quality, and availability of alternatives are factors that have been shown to have effects on turnover (both actual and intentions). It was 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 discourages dissatisfied employees from developing firm decisions to seek alternatives or to resign (Hom et al., 1992, p. 893).

I believe that the existence of alternatives should affect the way in which someone perceives the value of her/his actual job and corresponding sacrifices that s/he would have to make by quitting. A high number of comparable alternatives should have direct negative effects on 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 more highly. Consequently, I expect alternatives to negatively correlate with embeddedness.

My specific hypotheses, therefore, are:

Hypothesis 9. Alternatives correlate with embeddedness.

Hypothesis 9A. Alternatives negatively correlate with sacrifice-organization.

Hypothesis 9B. Alternatives negatively correlate with fit-organization.

10. Investments: Similarly, one's investments in a job should have direct effects on embeddedness, particularly fit-organization. Long [non-paid] 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 probably through the mediation of organizational commitment.

Specifically, my hypothesis is:

Hypothesis 10. Job investments correlate with embeddedness.

Hypothesis 10A. Job investments positively correlate with fit-organization.

11. Skills/education transferability: In the same line of arguments, transferability of skills/education should have a direct impact on sacrifice-organization. Presumably, it will be harder for people whose skills/education are not easily transferable to change their current work situation with another. At the same time, however, an organization that provides people with opportunities to develop skills that are marketable should be more valued. Specific training and organizational programs targeted at specific professional development that make people more competent in doing their jobs, increasing the likelihood of finding a job elsewhere, should make people value the organization more highly. Accordingly, my hypothesis is:

Hypothesis 11. Skills/Education transferability correlates with embeddedness.

Hypothesis 11A. Skills/Education transferability correlates positively with sacrifice-organization.

12. Mating opportunities. Another factor that should play a role in embeddedness stems from evolutionary psychology. Evolution has endowed us with mechanisms geared at gene reproduction and fit maximization. Under the premises of evolutionary psychology, much of our behavior is explained as attempts to maximize gene reproduction or increase the likelihood of survival of both the actor and its offspring. Fight for status, fight for promotions or for salary increases, or tendencies to spend unreasonable amounts of money on expensive items just for the sake of displaying them (to signify status) can all be viewed as attempts to increase the likelihood that one will find a good mate, which, in turn will increase the likelihood of efficient gene transmission (Buss, 1999).

In the light of these considerations, I expect that situations or conditions that are perceived to offer good mating opportunities would be preferred over those that do not.

People who perceive that the environment in which they live offers such opportunities will find it harder to separate from it. In other words, they will become embedded in it. I therefore expect a correlation between perceived mating opportunities and embeddedness. Specifically, my hypotheses are:

Hypothesis 12. Perceived number of mating opportunities correlates with embeddedness.

Hypothesis 12A. Perceived number of mating opportunities in the community positively correlates with fit-community.

Hypothesis 12B. Perceived number of mating opportunities in the community positively correlates with sacrifice-community.

Hypothesis 12C. Perceived number of mating opportunities in the organization positively correlates with fit-organization.

STUDY ONE

METHODOLOGY

One important issue in testing models like the one I am proposing is the direction of causality. Eventual correlations that may appear between the proposed antecedents and embeddedness may not necessarily mean that the direction of causality is *from* those antecedents to embeddedness. In some cases, perhaps the direction of causality is from some dimensions of embeddedness to some of the alleged antecedents. In other cases, perhaps it may be that the correlations are the expression of a latent factor that influences both of the variables. These are important issues that need to be addressed in the methodology.

To minimize the difficulties of interpreting the correlations, one possible way to execute this study is to do it in two phases: Administering the antecedents scales at time one and the embeddedness survey at time two. Though such an approach does not guarantee that the eventual correlations will represent the predicted direction, it however strengthens such an argument.

Doing the study in such a paradigm raises, however, important practical obstacles. The common empirical approach in the organizational psychology literature is to survey employees working for the same organization. Thus, any potential confound given by differences in the organizational culture that may affect people's answers is minimized. The model that I am testing makes such an approach difficult. If I were to survey the same people in an organization at two different times, I would have to link their answers

at the first questionnaire (the antecedents survey) to their answers to the second questionnaire (the embeddedness survey) and I would have to solicit the information necessary to link the two instruments (e.g. social security number, or name, or work id/email) directly from the respondents. This would imply that I would collect personal information that could identify the person who gave those answers. Since the questionnaire asks several sensitive questions (e.g. about the perception about one's supervisor, etc) the issues of confidentiality become an important problem. My concern is that if I use such an approach people might not be honest in their answers, or there will be a large number of non-responses to the second questionnaire. In both such cases people's compliance and the validity of the results could be compromised. Such concerns are not new in the literature.

Because of the above reasons in Study one I chose a different method: To eliminate the problem of confidentiality and response rate, I opted to survey people working for *various* organizations at two different times.

The procedure was as follows: 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 part of an introductory psychology course optional requirement. The students who opted for this were given the 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. I put a particular effort in having them administer the survey to people working in transferable positions (e.g., administration and management), to minimize the potential risk of the nature of the job emerging as a confound. This first survey went with the consent forms and also collected the names and contact details of the respondents. The 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, and not a study done by a third party in their company, I believe greatly decreased the perception of any potential danger or threat in the completion of the survey. Indeed, with one exception, all the students reported having no problems having their coworkers filling out the survey. On occasion, I was even asked to get in direct touch with some of the respondents who were curious about the aggregated results of the study.

After approximately a month, the students who participated in this project were given the embeddedness survey and instructed to administer it to the same people who had signed the consent forms and agreed to complete the antecedents survey. I collected 182 surveys and discarded ten because of missing data or because the embeddedness survey was not returned. In total, I collected 172 valid surveys over a period of eight weeks. The total completion time of both questionnaires was approximately 30 minutes – approximately 20 minutes for the first part, and 10 minutes for the second part (see Appendix 1 for the instrument and scales).

The surveys contained the following:

1. Questions targeting **demographic variables**
2. The **Big Five Inventory** (BFI) (John, Donahue, & Kentle, 1991). I chose BFI over the NEO-PI inventory because (of):
    1) Economical reasons (the overall questionnaire would become too long if I used the long multi-faceted version)
    2) Peer-reviewed empirical studies addressing the links between the Big Five and various outcomes (e.g. job performance, turnover), in general were not concerned with the facets of the Big Five (e.g. Barrick & Mount, 1991).

3. **Work preference inventory** (WPI) (Amabile et al., 1994), to assess intrinsic and extrinsic motivation.
4. **Role ambiguity** was captured by using a six-item scale developed by Rizzo et al., (1970).
5. **Perceived organizational support** was assessed using three items from the Survey of Perceived Organizational Support developed by Eisenberger et al. (1986). This strategy was 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, the authors selected three high-loading items 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 scale (1 = strongly disagree; 5 = strongly agree). These items were also used in the present study.
6. **Perceived supervisor support**. To assess employees' perception that their supervisor values their contribution and cares about their well-being, I used the SPOS 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*. The three adapted items from the SPOS are Items 10, 27, and 35 (Eisenberger et al., 1986) selected 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).
7. **Skills/education transferability** was measured by adapting some items used by Facteau, Dobbins, Russell, Ladd, & Kudisch (1995) and Tesluk, Farr, Mathieu, & Vance (1995) and adding a few more items. The items were: I can easily use the

knowledge that I have gained while working for this company in another work setting / My actual job performance has improved due to the skills I learned in this job / The skills that I have accumulated while working for this company greatly increased my chances of getting a comparable job elsewhere / My resume looks better now, after all the training I have received while in this job.

8. **Job investment** was assessed adapting the following item: "How much does your investment in this job compare with what most people have invested in their jobs?" This is an item 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). I also included four more items: I have spent many unpaid extra hours at work / I have voluntarily engaged in many organization-related activities that are not a formal part of my job (e.g. committee memberships, event planning) / The effort that I have put into my job has helped me to become competent in this line of work / I use my free time to read work-related materials that contribute to my competence on the job.
9. **Perceived number of alternatives** was measured using a five-item scale employed by Mitchell et al. (2001) and adapted from Lee and Mowday (1987). The items were: What is the probability that you can find an acceptable alternative to your job? / If you search for an alternative job within a year, what are the chances you can find an acceptable job? / If you have received a job offer in the past year, to what extent did you consider accepting it? / If you received a job offer today, to what extent would you consider accepting it? / Have you considered quitting your job to pursue non-work options?

10. **Perceptions of mating opportunities** was collected using two items which were tested in a pilot study. The items were: It would be easy for me to date someone working for this company, should I desire so / I could easily find a date in the community I live in, should I desire so.
11. **Job embeddedness** was tested using a slightly modified version of the Mitchell et al (2001) embeddedness survey that contained a more fine-grained demographic section. A few items have been added and other items have been excluded from the Mitchell et al (2001) initial version.
12. Two **additional measures** were included for exploratory purposes. They were: a) *Intention to leave* which was assessed using a three-item scale adapted from Hom et al (1984) and used by Mitchell et al (2001) as a part of the questionnaire they employed to test the embeddedness construct and b) *Job search behavior index* which is a measure designed to assess actual search activity. The Kopelman et al. (1992) ten-item scale was used for this purpose.

Demographics: A total of 172 questionnaires was collected, 37.8% (65) males, 61.6% (106) females. Thirty percent (50) identified as White, 29.2% (49) identified as Hispanics, 38.1% (64) identified as Blacks, 2.4% (4) identified as Asians, and 0.6% (1) identified as other race.

Thirty-four percent (58) of the respondents were married, 37.2% (64) were single, 12.2% (21) were divorced, 12.2.% (21) were not married but attached, 1.7% (3) were not divorced but separated, and .6% (1) did not provide marital status info.

Analysis: I first calculated the means of the items comprising the Big Five factors, the intrinsic and extrinsic motivation factors, as well as the items comprising the six embeddedness dimensions. I also calculated the means of the items comprising the

secondary scales of intrinsic and extrinsic motivation (*enjoyment* and *challenge* for intrinsic motivation, *outward* and *compensation* for extrinsic motivation). Links-community and links-organization dimensions of embeddedness consisted of two types of items: 1) items assessed on a Likert scale and 2) items that were not assessed on a Likert scale. The items that were not assessed on a Likert scale were marital status, spouse employment status, number of children, time the person lived in the community, home ownership, time the person worked in the respective industry, for the respective organization, and in the respective position.

Marital status was changed from Mitchell et al. (2001) into a more fine-grained assessment of the strength of the attachment with a significant other. Thus, the strength of the attachment to a significant other was coded in the following manner: 1) married, 2) not married but attached, 3) not divorced but separated, 4) divorced, 5) never married/single. Thus, the strength of the attachment to a significant other decreases from 1 to 5. In the calculations, these values were reversed to be in line with the Likert scale used in the embeddedness survey and considered a continuous variable. Number of children was calculated by taking into account all the children under the age of 18.

For the other items not coded on a Likert scale, as well as for age, I calculated the standard scores (z-scores) and then I integrated them in the corresponding dimensions or antecedent clusters. Finally I calculated embeddedness as a mean of its dimensions. For convenience purposes I will refer to all the z-scores by their initial name (e.g., I will refer to “z-age” as “age”). The correlation matrix for all the variables is presented in Appendix 2.

RESULTS

Overall regression

An overall multiple regression was performed first: The overall embeddedness score was regressed on all the proposed antecedents (age, number of children, traits, motivation, role ambiguity, organizational support, skills transferability, investments, alternatives, and mating).

The regression coefficient was highly significant ($F = 6.22$, $p < 0.000$) and the predictors accounted for 46% of the variance in embeddedness (R square = .461). *Age* (beta = .17, t = 2.35, $p < .02$), *number of children* (beta = .15, t = 2.35, $p < .02$), *supervisor support* (beta = .18, t = 2.17, $p < .03$), *job investments* (beta = .17, t = 2.37, $p < .01$), *skills transferability* (beta = .15, t = 1.87, $p < .06$), *perceived number of alternatives* (beta = -.17, t = -2.35, $p < .02$), and *mating in community* (beta = .24, t = 3.52, $p < .001$) had all significant or marginally significant (skills transferability) correlations in the predicted direction with the overall embeddedness score. The other proposed antecedents did not reach significance levels in this preliminary overall analysis (see **Appendix 1-S1**).

The results of this overall regression are promising. First, all the predictors combined account for approximately 50% of the variance in embeddedness. As mentioned earlier, this study addresses only the antecedents that pertain to the individual (demographics, traits, work perceptions, mating), not to the organization (e.g., HR. policies, training availabilities, spoken organizational culture). A complementary study that would address these other possible antecedents might tap into the unaccounted 50% of the variance. Second, the analysis revealed that each cluster of antecedents

(demographics, traits, work perceptions and biologic factors) contributed to the variance. This is an important indication that embeddedness is caused/enhanced by a variety of factors, which was one of the underlying assumptions of this study. Third, the predictions in the present study are more specific, in that embeddedness antecedents are linked to specific dimensions of embeddedness, which in turn are linked to the overall embeddedness. Therefore a more fine-grained analysis, regressing each embeddedness dimension to its theorized antecedents should reveal yet stronger and more meaningful correlations.

This is the object of the considerations in the following pages.

Regression of overall embeddedness on clusters of antecedents

The next step in the analysis was to regress the overall embeddedness score on each cluster of antecedents (demographics, traits, perceptions about work, and mating factors).

Regression of overall embeddedness on the demographic cluster

The demographic cluster used in these computations consisted of *age* and *number of children*. A variable cannot be both predictor of, and part of, the variable the antecedent predicts, so I deliberately excluded *strength of attachment, time in the community* and *time in the organization* from the demographic cluster, as they are already components of specific embeddedness dimensions (links-community and links-organization). As shown below, these variables were included only as predictors of those dimensions that do not already contain them.

Regression on the demographic cluster was significant and revealed that this cluster accounts for 10% of the variance (R square = .099, $F = 8.91$, $p < .000$), with both *number of children* (beta = .22, $t = 3.00$, $p < .003$), and *age* (beta = .21, $t = 2.81$, $p < .006$)

highly correlating with overall embeddedness (see **Appendix 2-S1**). These findings could be summarized as follows: the older a person and the higher the number of children in care, the more highly is the person embedded.

Regression of overall embeddedness on the trait cluster

The trait cluster consisted of motivation (intrinsic and extrinsic) and the Big Five factors. Regression of embeddedness on these factors was highly significant ($F = 2.75$, $p < .005$) and revealed that this cluster accounts for 13% of the variance in overall embeddedness (R square = .134). *Conscientiousness* (beta = .24, t = 2.51, $p < .01$) and marginally *agreeableness* (beta = .15, t = 1.80, $p < .07$) showed positive correlations with overall embeddedness, while, interestingly, *enjoyment* (beta = -.18, t = -2.03, $p < .04$) showed a negative correlation (see **Appendix 3-S1**). Aside from enjoyment, intrinsic and extrinsic motivations do not seem to contribute significantly to the overall embeddedness. Conscientiousness and agreeableness significantly correlated with overall embeddedness. People who are dependable and conscientious, as well as people who are agreeable seem to become more highly embedded in their environment. This is in accord with my predictions. An interesting result was obtained for enjoyment. It seems that the more enjoyment one extracts from various activities, the less embedded one becomes. This result perhaps can be attributed to the fact that enjoyment is actually a subscale of intrinsic motivation, which is work-related, and as such it should not be included in the analysis of the influence of personality traits on overall embeddedness. A competing explanation could be the fact that people who extract much enjoyment from their work may feel a lesser urge to socialize and seek friendships, precisely because their social needs are already fulfilled through their job. Consequently, they will be less embedded.

Regression of overall embeddedness on the perceptions about work cluster

The perceptions about work cluster consisted of role ambiguity, organizational and supervisor support, skills transferability, job investments, and perceived number of alternatives. Regression of overall embeddedness on these factors was highly significant accounting for 29% of the overall embeddedness (R square = .286, F = 10.42, $p < .000$). *Organizational support* (beta = .17, t = 2.04, $p < .04$), *job investments* (beta = .21, t = 2.91, $p < .004$) and *perceived number of alternatives* (beta = -.25, t = -3.75, $p < .000$) correlated significantly and in the predicted direction with overall embeddedness (see **Appendix 4-S1**).

Greater perceived organizational support and job investments seem to act by embedding the individual in his/her environment, while greater perceived number of alternatives seems to act against embeddedness. Indeed, the extra effort one puts in his/her job, as well as the extra investment an organization puts in its taskforce should act in the direction of embeddedness, as predicted, and this is precisely what emerged in the analyses. Similarly, as predicted, the perceived number of alternatives should act against embeddedness: a person who finds it easy to switch jobs should feel less embedded.

Regression of overall embeddedness on the mating cluster

The mating cluster consisted of two items – one targeting one's likelihood to find a mate in the organization, and one targeting one's likelihood to find a mate in the community n which s/he lives. This cluster accounted for 5% in overall embeddedness (R square = .051, F = 4.39, $p < .01$) with *mating in community* correlating significantly with overall embeddedness (beta = .24, t = 2.95, $p < .004$) (see **Appendix 5-S1**).

People who perceive that they can easily find a mate in the community they live in seem to become more embedded. It seems that this perception makes it harder for people to break the links and give up their present circumstances.

Comments

Although these results are promising, a more fine-grained analysis needs to be made. Thus far, overall embeddedness was regressed on all the factors altogether, and overall embeddedness on clusters of antecedents. Many of the theorized antecedents correlated with embeddedness in the predicted direction. These antecedents are: *number of children*, *age, agreeableness, conscientiousness, organizational support*, *supervisor support, job investments*, *alternatives*, *skills transferability*, *enjoyment*, and *mating in community*. Both of the demographic factors theorized to be antecedents of embeddedness correlated with overall embeddedness. Three of the Big Five factors correlated with overall embeddedness, and five out of six of the perceptions-about-work factors correlated with overall embeddedness. *Extraversion*, one of the Big Five factors theorized to correlate with embeddedness did not reach significance in this sample, and *role ambiguity*, a factor from the perceptions-about-work cluster also did not reach significance in this sample. Neither intrinsic nor extrinsic motivation reached significance levels when correlated with overall embeddedness, with the interesting exception of enjoyment, which yielded a negative correlation with overall embeddedness. The mating cluster did reach significance levels, though it accounted for a relatively small portion of the variance in overall embeddedness.

The next logical step in the analyses is to regress each *embeddedness dimension* on each cluster of antecedents. In the following pages I will describe the results of the regressions of links-community, fit-community, sacrifice-community, links-organization,

fit-organization, and sacrifice-organization on demographics, traits, perceptions about work, and mating.

Links-Community

Regression of links-community on the demographic cluster revealed that this cluster accounts for 17% of the variance (R square = .167, F = 16.24, p < .000). This cluster included *number of children* and *age*. The other variables in the theorized demographic cluster are already a part of links-community. They will serve as antecedents of other embeddedness dimensions, described below. Both *age* (beta = .29, t = 4.04, p < .000) and *number of children* (beta = .27, t = 3.81, p < .000) correlated highly significantly with links-community (see **Appendix 6-S1).**

The results of this regression suggest that increased number of children in care and increased age have a positive influence on the number of links between a person and his/her community. Increased age and increased number of children make an individual more embedded in the community in which s/he lives.

Regression of links-community on traits did not reveal any significant correlations. This cluster was theorized to consist of Big Five factors and Motivation. Only the Big Five factors were included in this analysis, as [intrinsic and extrinsic] motivation relates to work perceptions and behaviors. Based on the findings one can argue that the links-community dimension of embeddedness seems not to be significantly affected by dispositions (see **Appendix 7-S1**).

Regression of links-community on the mating cluster (represented only by *mating in community*) did not reveal any significant correlations (see **Appendix 8-S1**).

Fit-Community

Regression of fit-community on the demographic cluster revealed that this cluster accounts for 10% of the variance in fit-community (R square = .096, F = 4.14, $p < .003$), with *strength of attachment* correlating highly with fit-community (beta = .26, t = 3.14, $p < .002$) (see **Appendix 9-S1**). People who reported the strongest attachment with a significant other (married) were more likely to report an increased level of fit with their communities. This is in accord with the predictions: as theorized in the previous pages, the number of attachments between a person and his/her community is likely to increase when there are two people in the household, as each of them brings in friends and expands the community network through club memberships or other affiliations. As such, the level of fit with the community should increase.

Regression of fit-community on the trait cluster (only the Big Five factors) revealed that this cluster accounts for 8% of the variance (R square = .08, F = 2.85, $p < .01$). Of the Big Five, *conscientiousness* correlated highly with fit-community (beta = .21, t = 2.34, $p < .02$) (see **Appendix 10-S1**). People who are conscientious – efficient, organized, dutiful, achievement striving, deliberate and disciplined – apparently have a higher level of fit with their surroundings. Indeed, such people may be more proactive in their involvement in their communities, and may head voluntary committees. This should lead to an increased level of fit with the respective environment.

Regression of fit-community on the mating cluster (only represented by mating in community) revealed that this cluster accounts for 6% of the variance in fit-community

(R square = .056, F = 9.89, p < .002) (see **Appendix 11-S1**). *Mating in community* correlated highly significantly with fit-community (beta = .23, t = 3.14, p < .002). These results suggest that the higher the perceived number of mating opportunities one has in the community in which one lives, the higher the level of perceived fit with the community. Indeed, insights from evolutionary psychology suggest that one of the strongest motivations of human behavior consists of finding a suitable mate. A person who finds himself/herself in an environment that seems to provide such opportunities should find the respective environment better fitted to his/her needs, and this is precisely what emerged in the analyses.

Sacrifice-Community

Regression of sacrifice-community on the demographic cluster (age, time in the community, number of children and strength of attachment) accounted for 9% of the variance in sacrifice community (R square = .094, F = 4.06, p < .004). *Time in the community* (beta = .16, t = 1.94, p < .05) and *strength of attachment* (beta = .20, t = 2.44, p < .01) correlated significantly with sacrifice-community (see **Appendix 12-S1**). These results suggest that the more time one has spent in a community and the stronger the attachment to a significant other, the harder it will be for the person to break the net and leave the community and the greater the sacrifices perceived in the event of leaving.

Regression of sacrifice-community on the trait cluster (only represented by the Big Five) showed that this cluster accounts for 12% in the variance in sacrifice-organization (R square = .115, F = 4.23, p < .001). *Agreeableness* (beta = .24, t = 2.83, p < .005), *conscientiousness* (beta = .19, t = 2.15, p < .03), and *neuroticism* (beta = .16, t = 1.99, p < .04) correlated significantly with sacrifice-community (see **Appendix 13-S1**).

Agreeable individuals enter into relationships more easily: they make friends more easily, and these may be hard to give up. A positive correlation was predicted between agreeableness and sacrifice-community and this is precisely what emerged in the analyses. Conscientiousness has also shown an empirical positive correlation with sacrifice-organization. One possible explanation is that conscientious individuals are more involved in their community, and may be members of various community-service organizations. Giving up all these investments would be harder for them.

Regression of sacrifice-community on the mating cluster (only represented by 'mating community' in this case) showed that *mating in community* accounts for 10% of the variance (R square = .095, F = 17.42, p < .000, beta = .30, t = 4.17, p < .000) (see **Appendix 14-S1**). This result is particularly interesting as this cluster consisted of only two items, one tapping into its relationships with the organization, another tapping into its relationships with the community. Ten percent of the variance in sacrifice-community in this sample was accounted for by the perceived number of mating alternatives/opportunities in that community. In other words, the results suggest that increased likelihood of finding a partner in the community increases the level of perceived sacrifices one has to make if one were to leave the respective community.

Links-Organization

Regression of links-organization on the demographic cluster revealed that this cluster accounts for 34% (R square = .336, F = 26.42, p < .000) of the variance in links-organization (see **Appendix 15-S1).** Only *age, strength of attachment,* and *number of children* were included in this regression, as time in industry, time in organization, and time in the current position are already theorized to be a part of links-organization in

Mitchell et al. (2001). *Age* (beta = .56, t = 8.53, p < .000) does seem to have a very strong effect on the number of links between a person and his/her organization. The older a person is, the more links he seems to have developed with various organizational-related factors. Indeed, as theorized, older people would have had more opportunities to develop contacts with coworkers in business relationships, thereby increasing their embeddedness level. These results are in accord with predictions.

Regression of links-organization on the trait cluster (Big Five and Intrinsic/Extrinsic motivation subscales) showed that this cluster accounts for 15% (R square = .147, F = 3.05, p < .002) of the variance in links-organization. Interestingly, *enjoyment* showed a significant negative correlation with links-organization (beta = -.29, t = -3.23, p < .001). *Extraversion* (beta = .17, t = 2.15, p < .03) and *conscientiousness* (beta = .21, t = 2.29, p < .02) correlated significantly with links-organization (see **Appendix 16-S1**). That extraversion positively correlates with links-organization is in accord with prediction. Extraverted individuals may enter more easily into relationships; they make friends more easily and are better networked. Similarly, conscientious individuals are efficient, organized, dutiful, achievement striving, deliberate and disciplined and as such they may be more rapidly promoted to supervisory positions, which, in turn, leads to increased number of links between the person and various organizational attributes (co-workers, subordinates, top management, etcetera). The empirical negative correlation between enjoyment and links-organization is surprising and would suggest that the more enjoyment one extracts from his/her job, the less the likelihood that the person will develop links with various organizational aspects. A possible explanation of this finding, which could be the object of future empirical investigation, could be the fact that intrinsically motivated people (enjoyment is a part of intrinsic motivation in Amabile et

al.'s [1994] theorizing) may simply not need too much social support to feel good. They are already extracting personal satisfaction from their work. One can speculate that as such, they may not require friendships and relationships to compensate for any deficit in job satisfaction that may be experienced by extrinsically motivated individuals. Consequently the intrinsically motivated may have a reduced number of organizational links. They are deeply involved in their work and spend less time in social activities (e.g., smoking outside, after-work Fridays), which would create opportunities for better networking. As a consequence, their embeddedness level is reduced. These conjectures could be the object of future investigations.

Regression of links-organization on the perceptions-about-work cluster. Regression was performed for links-organization and the perceptions-about-work cluster. This cluster accounted for 17% (R square = .172, F = 5.39, $p < .000$) of the variance in links-organization with *job investments* (beta = .30, t = 3.77, $p < .000$), *skills transferability* (beta = -.20, -2.39, $p < .01$) and *perceived number of alternatives* (beta = -.27, t = -3.64, $p < .000$) correlating highly significantly with links-organization. Job investments correlate positively with links-organization, while skills transferability and perceived number of alternatives showed negative correlations (see **Appendix 17-S1**).

Job investments measures the level of involvement of a person in his/her job, operationalized by the unpaid extra time spent at work and other non-transferable, idiosyncratic behaviors. People who display such behaviors are indeed more likely to enter in contact with more people in the organization, which increases the number of links/attachments between the person and the organization. Skills transferability showed a negative correlation: one possible explanation could be the fact that because these people know that their skills are transferable, they may not be as interested in networking

with others or may not be willing to involve themselves in their job more than necessary. Skills transferability translates to more job opportunities, so that the need to enrich the organizational network (possibly to increase job security) becomes less imperative.

Regression of links-organization on the mating cluster did not show any significant values (see **Appendix 18-S1**).

FIT-ORGANIZATION

Regression of fit-organization on demographics (represented by age, time in organization and strength of attachment) did not show significant correlations. While age did account for 33% of the variance in links-organization, *age* per se seems not to be a predictor of fit-organization. Regression of fit-organization on *time in the organization* also did not show any significant correlations. It seems that time in the organization, like age, has no influence on the perceived level of fit with the organization. *Strength of attachment* did yield a significant correlation (beta = .19, t = 2.40, $p < .01$), although the regression model failed to reach significance levels (see **Appendix 19-S1**).

Regression of fit-organization on the trait cluster (both Big Five and Intrinsic/Extrinsic motivation) revealed that this cluster accounts for 15% of the variance (R square = .148, F = 3.05, $p < .002$). The *outward* dimension of extrinsic motivation (beta = .22, t = 2.61, $p < .01$) and *conscientiousness* (beta = .22, t = 2.36, $p < .01$) are highly correlated with fit-organization, while *enjoyment* marginally (beta = -.15, t = -1.77, $p < .07$) and *openness* (beta = -.19, t = -2.17, $p < .03$) manifested negative correlations with fit-organization (see **Appendix 20-S1**).

The outward dimension of extrinsic motivation describes people who tend to be motivated by recognition, who are sensitive to others' opinions of their work and ideas. They tend to judge their success relative to other people and those with high scores tend to work with clear goals and procedures (Amabile et al., 1994). One would expect a positive correlation for this factor with fit-organization. Indeed, working with clear goals and having established procedures should positively influence the perception of fit with the organization and this is what emerged in the analyses.

Conscientiousness – which describes people who are organized, dutiful, achievement striving, deliberate – is a quality valued by any organization. Such people are dependable and reliable: As such, they are entrusted with more responsibility, which should increase the level of fit with the organization. A positive correlation between consciousness and fit-organization was predicted and this is precisely what emerged in the analyses.

Of interest is the negative correlation of openness with fit-organization. Openness describes individuals who are curious, have ideas, are imaginative and artistic, show wide interests, are excitable and unconventional. They are the "explorer" type, always seeking adventure or new experiences. One possible explanation for this finding is the fact that this sample consisted mostly of people working in administration, in small to mid-size law firms or consulting companies. It is hard to imagine an administrative position that would meet the needs of a person who scores highly on the openness dimension of the Big Five. A positive correlation would be expected from a sample of artists, musicians, or field anthropologists, for instance. On the other hand a positive correlation might be expected in a sample where job transfers *within* the organization are relatively easy to make.

Regression of fit-organization on the perceptions-about-work cluster (ambiguity, organizational and supervisor support, job investments, skills transferability, and perceived number of alternatives) revealed that this cluster accounts for a sizable 47% of the variance (R square = .472, F = 23.25, p < .000). *Organizational support* (beta = .46, t = 6.15, p < .000), *job investments* (beta = .14, t = 2.19, p < .02), and *perceived number of alternatives* (beta = -.23, t = -3.93, p < .000) correlated highly and in the predicted direction (negative for the perceived number of alternatives) with fit-organization (see **Appendix 21-S1**). More organizational support and greater job investments do seem to relate to a higher level of fit with the organization. In contrast, a larger perceived number of alternatives acts against fit-organization. People who perceive that they can easily change their current position are less likely to report a high level of fit with the organization to which they belong.

Regression of fit-organization on the mating cluster produced a marginal effect (R square = .01, F = 3.07, p < .08), with *mating in organization* correlating marginally with fit-organization (beta = .13, t = 1.75, p < .08) (see **Appendix 22-S1**).

SACRIFICE-ORGANIZATION

Regression of sacrifice-organization on the demographic cluster did not reveal any significant correlations. Time in the organization, number of children, and strength of attachment do not relate to the perceived sacrifice of leaving the organization (see **Appendix 23-S1**).

Regression of sacrifice-organization on the trait cluster (both the Big Five and Motivation) also did not reach significance levels. Personality traits or intrinsic/extrinsic

motivation do not account for significant variance in sacrifice-organization, but *agreeableness* did show a significant positive correlation with sacrifice-organization (beta = .19, t = 2.18, p < .03, see **Appendix 24-S1**). Agreeable individuals seem to have greater difficulty giving up the organization they work for. Based on the results from this sample, however, the effect of agreeableness as an antecedent of sacrifice-organization is unclear.

Regression of sacrifice-organization on the perceptions-about-work cluster (role ambiguity, organizational support, supervisor support, job investments, skills transferability, perceived number of alternatives) showed that this cluster accounts for 45% of the variance (R square = .445, F = 20.85, p < .000). *Organizational support* (beta = .38, t = 4.95, p < 000), *supervisor support* (beta = .20, t = 2.73, p < .007), and *skills transferability* (beta = .16, t = 2.35, p < .02), showed all positive significant correlations in the predicted direction with sacrifice-organization while *perceived number of alternatives* strongly correlated negatively (beta = -.29, t = -4.85, p < .000) with sacrifice-organization (see **Appendix 25-S1**). The perceived sacrifice in the event of leaving is greater when there is more support and skills transferability, and lower when the number of alternatives is larger. The positive correlation between skills transferability and sacrifice-organization is of a special interest. Earlier, a negative correlation between skills transferability and links-organization was explained as a tendency of people to be less involved in the organization if they know they can find a comparable job elsewhere. The positive correlation between skills transferability and sacrifice-organization suggests that although such people may be less inclined to develop relationships within the organization, they nonetheless value the organization for the opportunities it offers to make them more marketable.

Regression of sacrifice-organization on the mating cluster did not reveal any significant correlations. Increased number of mating opportunities within the organization does not seem to affect the sacrifice-organization dimension of embeddedness (see **Appendix 26-S1**).

STUDY TWO

The method that I employed in study one has one potentially major flaw, namely the fact that the participants did not work for the same organization. I argued that this should not constitute a significant issue, as I am essentially correlating personality traits and perceptions about work with embeddedness. However, to further strengthen my arguments, study one was replicated with people working for the *same* organization.

This sample consisted of people working for a well-known higher education institution on the East Coast. This institution employs both faculty (instructors) and administrative staff. I deliberately chose to survey only the administrative staff in this institution, for such people have transferable skills and they spend 35-40 hrs/week at the workplace. Faculty constitutes a separate group with unique characteristics, and any findings from studying such a group are hard to generalize outside academia.

A total of 502 surveys were mailed to the entire staff of this institution. The envelope contained the survey and a stamped return envelope, along with instructions and consent forms. A particular effort was put to stressing the confidentiality of the responses. 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, participants received a reminder email about the survey, and after two more weeks they received another reminder.

A total of 130 questionnaires was returned, representing approximately a 25% response rate. One questionnaire was discarded because one page was missing. A total of 129 valid questionnaires was included in the analysis. The questionnaire was identical to that administered in study one with the exception of the addition of two more items for control purposes. The items were: Are you taking classes at this institution? / Are you a Union member? (See Appendix 3 for the complete instrument).

Demographics: A total of 129 questionnaires was included in the analyses: 29.9% (38) of the respondents were males, 70.1% (89) were females. Seventy three percent (94) identified themselves as White, 7.8% (10) identified as Hispanics, 8.6% (11) identified as Blacks, 9.4% (12) identified as Asians, and 0.8% (1) identified as other race.

Forty-two percent (52) of the respondents were married, 29.6% (37) were never married, 5.6% (7) were divorced, 20% (25) were attached, while 3.2% were not divorced but separated.

The correlation matrix between all the variables is presented in Appendix 4.

RESULTS

Overall regression

Following the same procedure as in study one, an overall regression of the embeddedness score on all the antecedents was first performed. The regression was highly significant (F = 7.62, p < .000) with the antecedents accounting for 59% in the variance in embeddedness (R square = .587). This regression showed that *compensation* (beta = -.29, t = -3.85, p < .000), marginally *extraversion* (beta = .14, t = 1.87, p <. 06), *agreeableness* (beta = .32, t = 3.25, p < .002), *neuroticism* (beta = .18, t = 2.07, p < .041), *supervisor support* (beta = .30, t = 2.78, p < .006), *job investments* (beta = .22, t = 2.74, p < .007), *perceived number of alternatives* (beta = -.30, t = -3.34, p < .001) and *mating in organization* (beta = .24, t = 3.21, p < .002), correlated significantly with overall embeddedness (see **Appendix 1-S2**). Compensation showed an interesting negative correlation with embeddedness, suggesting that the more value one places on extrinsic rewards, the less embedded is the person in his or her environment.

Regression of overall embeddedness on clusters of antecedents

Regression of overall embeddedness on the demographic variables (*age* and *number of children*) was highly significant (F = 8.37, p < .000) accounting for 12% of the variance (R square = .120). *Age* correlated highly significantly with overall embeddedness (beta = .34, t = 3.97, p < .000, see **Appendix 2-S2**).

Regression of overall embeddedness on traits was significant (F = 3.98, p < .000), accounting for 23% of the variance in overall embeddedness (R square = .232). *Compensation* (beta = -.21, t = -2.46, p < .015), *agreeableness* (beta = .30, t = 3.02, p <

.003), *challenge* (beta = .19, t = 2.07, p < .04), and marginally *outward* (beta = .16, t = 1.83, p < .06) correlated significantly with overall embeddedness (see **Appendix 3-S2**).

Regression of overall embeddedness on the perceptions-about-work cluster was highly significant (F = 10.50, p < .000) and accounted for 34% of the variance (R square = .341). *Supervisor support* (beta = .41, t = 3.47, p < .001), marginally *job investments* (beta = .14, t = 1.87, p < .06) and *job alternatives* (beta = -.15, t = -1.95, p < .05) correlated significantly with embeddedness (see **Appendix 4-S2**). Not surprisingly, increased number of alternatives correlated negatively with overall embeddedness. Supervisor support and job investments both correlated positively with overall embeddedness. Interestingly, organizational support did not show significant correlations in this sample, as it did in the previous sample. Rather, supervisor support showed significant correlations with overall embeddedness. These results could be attributed to the difference in the size of the organizations the two samples worked for. Sample two participants work for a large organization, containing many divisions and different organizational subcultures and values. It makes sense that these people will see the organization as something more abstract and far away, and would place more value on the relationships with their immediate supervisors. In sample one, participants usually worked for small organizations (law firms or consulting firms) where everybody knew each other. In this case, organizational support (or lack thereof) will be more visible in people's eyes. These are empirical questions that merit further investigation.

Regression of overall embeddedness on the mating cluster revealed that this cluster accounts for 10% of the variance (R square = .10, F = 7.10, p < .001). Both *mating in community* (beta = .18, t =2.19, p < .03) and *mating in organization* (beta = .23, t = 2.76,

$p < .007$) correlated significantly in the predicted direction with overall embeddedness (see **Appendix 5-S2**). A larger perceived number of mating opportunities does seem to make a person more embedded in his or her environment. Again, this result is hardly surprising if judged in the framework of evolutionary psychology. Indeed, survival and reproduction are the main motivational factors in the animal (and human) kingdom. Any environment that offers greater chances of survival (factor not explored in this study) and increased chances of successful genes transmission should be more highly valued and harder to give up, and this is precisely what emerged in these analyses.

Regression of embeddedness dimensions on antecedents clusters

Following the same procedure as in study one, regression analyses were performed for each embeddedness dimension (links-community, fit-community, sacrifice-community, links-organization, fit-organization, and sacrifice-organization) on each antecedent cluster.

Links-Community

Regression of links-community on the demographic cluster accounted for 24% of the variance (R square = .239, F = 19.32, $p < .000$). Both *number of children* (beta = .31, t = 3.93, $p < .000$) and *age* (beta = .31, t = 3.91, $p < .000$) correlated highly significantly with links-community (see **Appendix 6-S2**). The higher the number of children in care and the older a person is, the greater and stronger the number of links between the person and his or her environment a result that emerged in sample one, as well.

Regression of links-community on traits did not yield significant values. Indeed, it seems that the Big Five factors do not account for significant variance in links-community (see **Appendix 7-S2**).

Regression of links-community on the mating cluster (represented only by mating in community item) also did not yield any significant correlations. The perception of increased mating opportunities within one's community seems not to affect the number of links between the person and community (see **Appendix 8-S2**).

Fit-Community

Regression of fit-community on the demographic cluster yielded significant values, accounting for 9% of the variance (R square = .089, F = 2.95, $p < .02$). *Time in the community* (beta = -.29, t = -2.87, $p < .005$) showed an interesting negative significant correlation with fit-community (see **Appendix 9-S2 a**), which counter-intuitively suggests that the more time one spends in the community, the lesser the level of fit with the community. An exploratory item ("*I am a real New Yorker*"), which correlated positively with time in the community, showed no correlation with fit-community. This suggests that in this sample the effect of time is unclear, but does tend to be negative. More research needs to be done on samples that live in expensive big cities where living comes sometimes with big challenges (see **Appendix 9-S2 b**).

Regression of fit-community on traits (represented by the Big Five only) marginally reached significance, accounting for 8% of the variance in fit-community (R square = .079, F = 2.11, $p < .06$) (see **Appendix 10-S2**). *Extraversion* (beta = .20, t = 2.02, $p < .04$), *agreeableness* (beta = .20, t = 1.99, $p < .04$), and *conscientiousness* (beta = -.27, t =

-2.41, $p < .01$) showed significant correlations with fit-community. Conscientiousness showed an interesting negative correlation with fit-community. It suggests that the perception of fit with the community decreases as conscientiousness increases. This makes sense if, in big cities, the efforts of any one individual are not likely to be acknowledged by the community and the individual consequently feels that his or her efforts are undervalued or neglected. This presupposition merits further investigation.

Regression of fit-community on the mating cluster marginally fell short of significance (R square = .02, $F = 2.93$, $p < .08$), with mating in community correlating marginally with fit-community (beta - .153, $t = 1.71$, $p < .08$, see **Appendix 11-S2**).

Sacrifice-Community

Regression of sacrifice-community on the demographic cluster (strength of attachment, age, number of children, time in the community) failed to reach significance (see **Appendix 12-S2).**

Regression of sacrifice-community on the trait cluster also did not reveal any significant values (see **Appendix 13-S2**).

Regression of sacrifice-community on the mating cluster fell just short of significance (R square = .02, $F = 3.46$, $p < .06$), with mating in community correlating marginally with sacrifice-community (beta = .16, $t = 1.86$, $p < .06$, see **Appendix 14-S2**).

Links-Organization

Regression of links-organization on the demographic cluster (represented by age and strength of attachment) was highly significant, accounting for 38% of the variance in links-organization (R square = .379, F = 24.81, p < .000). *Age* (beta = .66, t = 8.50, p < 000) and *strength of attachment* (beta = -.16, t = -2.12, p < .035) correlated significantly with links-organization (see **Appendix 15-S2**). *Strength of attachment* showed negative correlation, suggesting that the more satisfied one is in his/her personal relationships, the less likely one is to actively seek links with the organization.

Regression of links-organization on traits (represented by Big Five and motivation) was significant accounting for 17% of the variance (R square = .173, F = 2.75, p < .006. Compensation was the only factor to reach significance in this regression (beta = -.22, t = -2.49, p < .01, see **Appendix 16-S2**).

Regression of links-organization on the perceptions-about-work cluster did not reach significance (see **Appendix 17-S2**)

Regression of links-organization on the mating cluster did yield significant values, with this factor accounting for 5% in the variance in links-organization (R square = .054, F = 7.00, p < .009, beta = .23, t = 2.64, p < .009, see **Appendix 18-S2**). A greater number of mating opportunities in the organization is associated with a larger number of organizational links.

Fit-Organization

Regression of fit-organization on the demographic cluster (represented by *age*, *time in organization*, and *strength of attachment*) was highly significant accounting for 16% of the variance in fit-organization (R square = .163, F = 7.83, p < .000). *Age* (beta = .31, t = 2.88, p < .005) and *strength of attachment* (beta = .20, t = 2.23, p < .02) correlated significantly with fit-organization (see **Appendix 19-S2**).

Regression of fit-organization on the trait cluster was highly significant, accounting for 31% in the variance in fit-organization (R square = .312, F = 6.00, p < .000). Marginally c*hallenge* (beta = .16, t = 1.77, p < .07) and *compensation* (beta = -.15, t = -1.81, p < .07) and highly significantly *agreeableness* (beta = .25, t = 2.74, p < .007) correlated with fit-organization (see **Appendix 20-S2**). People working in roles that are challenging, or who value work that is challenging are reporting increased levels of fit with the organization, perhaps because it provides them with opportunities to feed this need. Also, agreeable individuals are reporting increased levels of organizational fit. Such people are better networked and have more friends at work, which should increase the perception of the organization as a second home. This should increase the level of fit and this is precisely what emerged in the analyses. In contrast, people who value extrinsic rewards seem to report decreased levels of organizational fit. The more value one places on monetary rewards, the lower the level of fit with the organization.

Regression of fit-organization on the perceptions-about-work cluster (role ambiguity, organizational support, supervisor support, skills transferability, perceived number of alternatives, job investments) was significant, accounting for 36% of the variance in fit-organization (R square = .358, F = 11.34, p < .000). *Supervisor support* (beta = .36, t =

3.15, p < .002), and *job investments* (beta = .18, t = 2.42, p < .01) correlated significantly with fit-organization. *Perceived number of alternatives* showed a marginal negative correlation with fit-organization (beta = -.134, t = -1.70, p < .09, see **Appendix 21-S2**). Indeed, greater perception of supervisor support should relate to a higher level of organizational fit, as the person feels that his/her needs are addressed by the organization. Similarly, the more investments one puts in his/her job, the higher the reported level of fit with the organization. In contrast, the prediction that a larger number of possible job alternatives should act against fit-organization was actually confirmed in the analyses, albeit marginally.

Regression of fit-organization on the mating cluster yielded significant values (F = 12.66, p < .001), accounting for 9% in the variance in fit-organization (R square = .093). Mating in organization factor correlated significantly with fit-organization (beta = .30, t = 3.55, p < .001, see **Appendix 22-S2**), suggesting that the greater the number of mating opportunities one finds in the organization, the higher the level of fit with the organization that the person experiences.

Sacrifice-Organization

Regression of sacrifice-organization on the demographic cluster (*strength of attachment, age,* and *time in the organization*) did not reveal any significant correlation between the factors and sacrifice-organization, although the regression was significant (F = 2.9, p < .03). It seems that these factors have only a minimal influence on the sacrifice-organization dimension of embeddedness (see **Appendix 23-S2**).

Regression of sacrifice-organization on the trait cluster (Big Five and Motivation) was highly significant accounting for 25% of the variance in sacrifice organization (R square = .25, F = 4.40, p < .000). The *outward* dimension of extrinsic motivation (beta = .17, t = 1.94, p < .05), *compensation* (beta = -.17, t = -2.07, p < .04), *agreeableness* (beta = .21, t = 2.12, p < .035) and *neuroticism* (beta = -.32, t = -3.35, p < .001) showed significant correlations with sacrifice organization (see **Appendix 24-S2**). Indeed, as predicted, agreeable people should experience increased levels of embeddedness, by virtue of their ability to develop relationships and enrich the network of friends. Consequently, the sacrifices that they would have to make if they decided to leave the organization would be perceived as being higher.

Regression of sacrifice-organization on the perceptions-about-work cluster (role ambiguity, perceived number of alternatives, job investments, organizational support, skill transferability, supervisor support) revealed that this cluster accounted for a substantial 51% in the variance (R square = .513, F = 21.40, p < .000). *Supervisor support* (beta = .48, t = 4.81, p < .000), *skills transferability* (beta = .19, t = 2.34, p < .02) and *perceived number of alternatives* (beta = -.17, t = -2.54, p < .01) correlated significantly with sacrifice-organization (see **Appendix 25-S1**). That more perceived alternatives correlates negatively with sacrifice-organization comes as no surprise. People who perceive that they have many career opportunities are less likely to value the organization as highly as someone who perceives that the likelihood of getting another job elsewhere is low. Supervisor support also showed a highly significant correlation with sacrifice-organization, but organizational support did not show such a correlation. It seems that in this sample people are much more sensitive to their supervisors' behaviors than to the overall support provided by the organization. This is perhaps because sample

two individuals work for a large organization, where organizational micro-levels (e.g. departments or organizational units) are more important to the individual than the organization as a whole.

Regression of sacrifice-organization on the mating cluster was highly significant ($F = 6.38$, $p < .01$), accounting for 5% in the variance (R square = .049). *Mating in organization* accounted for 5% of the variance in sacrifice-organization (R square = .049, beta = .22, $t = 2.53$, $p < .01$, see **Appendix 26-S2**) suggesting that people find it hard to leave an organization that seems to provide opportunities for finding suitable mates.

DISCUSSION

The bottom line

The overall regression of embeddedness on all the antecedents reached significant values in both samples. Some of the antecedents reached significance levels in both samples, and other reached significance levels in just one sample (see Figure 4).

Significant antecedents in the overall regression			Sample one (46%)	Sample two (59%)
All antecedents	Age		*	ns
	Time in the community		Not included	Not included
	Time in the organization		Not included	Not included
	Number of children		*	ns
	Strength of attachment		Not included	Not included
	Agreeableness		ns	**
	Conscientiousness		ns	ns
	Extraversion		ns	marginal
	Openness		ns	ns
	Neuroticism		marginal	*
	Intrinsic Motivation	Enjoyment	ns	ns
		Challenge	ns	ns
	Extrinsic Motivation	Outward	ns	ns
		Compensation	ns	** (-)
	Role ambiguity		ns	ns
	Support	Organizational support	ns	ns
		Supervisor support	*	**
	Skills transferability		marginal	ns
	Job investments		**	**
	Perceived number of alternatives		* (-)	**(-)
	Mating in community		**	ns
	Mating in organization		ns	*

FIGURE 4: Significant antecedents in the overall regression. Marginal: $p < .10$; *: $p < .05$, **: $p < .01$; (-): negative correlation. Percentages represent how much of the variance is accounted for by the antecedents.

Similarities and differences between the samples:

A quick glimpse at Figure 4 reveals the following facts:

Age and *number of children* correlated highly significantly with overall embeddedness in sample one, but showed no significant correlations in sample two.

Agreeableness and marginally *extraversion* reached significance in sample two, but not in sample one, while *neuroticism* reached significance (marginal in sample one) in both samples.

Job investments, supervisor support and *perceived number of alternatives* are significant predictors of embeddedness in both samples.

The mating factor *(mating opportunities)* is also a significant contributor to the variance, though in sample one *mating in community* showed significant correlations, while in sample two *mating in organization* showed significant correlations.

Motivation seems not to have a significant influence on overall embeddedness except for *compensation* which yielded a negative correlation in sample two.

Role ambiguity and *skills transferability* seem not to be significant contributors to the variance in either sample, though skills transferability reached marginal significance in sample one.

Comparison between the samples in regression of overall embeddedness on clusters of antecedents

Regression of overall embeddedness on clusters of antecedents revealed the following similarities and differences between the samples (see Figure 5):

Regression of overall embeddedness on clusters of antecedents			**Sample one**		**Sample two**	
Demographics	Age		**	10%	**	12%
	Time in the community		Not included		Not included	
	Time in the organization		Not included		Not included	
	Number of children		**		ns	
	Strength of attachment		Not included		Not included	
Big Five	Agreeableness		marginal	13%	**	23%
	Conscientiousness		**		ns	
	Extraversion		ns		ns	
	Openness		ns		ns	
	Neuroticism		ns		ns	
Motivation	Intrinsic Motivation	Enjoyment	* (-)		ns	
		Challenge	ns		*	
	Extrinsic Motivation	Outward	ns		marginal	
		Compensation	ns		** (-)	
Work perceptions	Role ambiguity		ns	29%	ns	34%
	Support	Organizational support	*		ns	
		Supervisor support	ns		**	
	Skills transferability		ns		ns	
	Job investments		**		marginal	
	Perceived number of alternatives		** (-)		* (-)	
Mating	Mating in community		**	5%	*	10%
	Mating in organization		ns		**	

FIGURE 5: Regression of overall embeddedness on clusters of antecedents. Marginal: $p < .10$; *: $p < .05$, **: $p < .01$; (-): negative correlation. Percentages represent how much of the variance is accounted for by the antecedents.

From Figure 5 it can be observed that *age, agreeableness, support, job investments, perceived number of alternatives, and mating in community* are significant predictors in both samples. In addition, *number of children*, *conscientiousness*, *enjoyment*, and *organizational support* are also significant predictors in sample one, while *challenge orientation, compensation*, *supervisor support*, and *mating in organization* are also predictors in sample two.

Comparison between the samples in regressions of embeddedness dimensions on clusters of antecedents

Links-community

Regression of links community on demographics revealed the following similarities between the samples (see Figure 6):

Regression of links-community on antecedents		**Sample one**		**Sample two**	
Demographics	Age	***	17%	***	24%
	Number of children	***		***	

FIGURE 6: Significant antecedents in the regressions of links-community on antecedents clusters. ***: p< .001; (-): negative correlation. Percentages represent how much of the variance is accounted for by the antecedents.

Both *age* and *number of children* correlate highly significantly with links-community in both samples. This cluster accounts for important variance in both samples (17% in sample one, 24% in sample two). Age and number of children in care do seem to be important predictors of links-community, as theorized.

Fit-community

Regressions of fit-community on the antecedents revealed the following differences between the samples (see Figure 7).

Regression of fit-community on antecedents	**Sample one**	**Sample two**

Demographics	Strength of attachment	**	10%	ns	8%
	Time in community	ns		** (-)	
Traits (Big Five only)	Conscientiousness	*	8%	** (-)	8%
	Agreeableness	ns		*	
	Extraversion	ns		*	
Mating	Mating in community	**	6%	marginal	

FIGURE 7: significant antecedents in the regression **of fit-community on antecedents.** Marginal: p < .10;*: p < .05; **: p< .01; **; (-): negative correlation. Percentages represent how much of the variance is accounted for by the antecedents.

As can be observed from Figure 7, *strength of attachment* is a predictor in sample one but not in sample two. Also, time in the community showed a negative correlation in sample two, but no correlation in sample one. It seems that time leaves fit-community unaffected in sample one, which consisted of people mostly living outside New York City, but negatively affects fit-community in sample two, which consists of people mostly living in New York City. In sample one, *conscientiousness* emerged as a significant factor in the regression of fit-community on traits, while in sample two conscientiousness showed negative correlation with fit-community. As I speculated in the previous pages, this is perhaps because the increased efforts one puts in bettering the community are harder to be recognized in a big city. In contrast, in small communities, such effort may be more rapidly acknowledged, thereby enhancing the level of fit-community. Along with conscientiousness, *agreeableness* and *extraversion* also reached significance in sample two, suggesting that people who are outgoing and pleasant are more likely to experience increased levels of fit with a large community. Also, perceived number of *mating opportunities* accounted for significant variance in sample one, and marginally approached significance in sample two, suggesting that in both samples mating opportunities provided by the community factor into one's perception of fit with the community.

Sacrifice-community

A comparison of the regressions of sacrifice-community on the demographic cluster between the two samples revealed the following differences and similarities (see Figure 8):

Regression of sacrifice-community on antecedents clusters		**Sample one**		**Sample two**	
Demographics	Time	*	9%	ns	7% (marginal, p < .085)
	Strength of attachment	**		ns	
	Number of children	ns		* (-)	
Traits	Agreeableness	**	12%	ns	0%
	Conscientiousness	*		ns	
	Neuroticism	*		ns	
Mating	Mating in community	***	10%	marginal	3%

FIGURE 8: significant values of regression of sacrifice-community on antecedents. Marginal: $p < .10$; *: $p < .05$; **: $p < .01$; **: $p < .001$; (-): negative correlation. Percentages represent how much of the variance is accounted for by the antecedents.

From Figure 8 it can be seen that *strength of attachment*, *time spent in the community*, *agreeableness*, *conscientiousness*, and *neuroticism* of the Big Five accounted for significant variance in sample one. None of these antecedents reached significance in sample two. *Mating opportunities within the community* factor accounted for significant variance in sacrifice-community in sample one and was marginally significant in sample two.

Links-organization

The next step in the presentation of the results is to show how the organizational dimensions of embeddedness compare across the two samples when regressed on the

antecedents. Regression of links-organization on the antecedent clusters revealed the following differences and similarities between the samples (see Figure 9):

Regression of links-organization on clusters of antecedents			**Sample one**		**Sample two**	
Demographics	Age		***	33%	***	38%
	Strength of attachment		ns		*(-)	
Traits	Extraversion		*	15%	ns	17%
	Conscientiousness		*		ns	
	Compensation		ns		** (-)	
Motivation	Intrinsic	Enjoyment	** (-)		ns (showed negative tendency)	
Work perceptions	Job investments		***	17%	ns	0%
	Skills transferability		** (-)		ns	
	Perceived number of alternatives		*** (-)		ns	
Mating	Mating in organization		ns	0%	***	5%

FIGURE 9: Significant values of regressions of links-organization on antecedents. *: $p < .05$, **: $p < .01$, **: $p < .001$. (-): negative correlation. Percentages represent how much of the variance is accounted for by the antecedents.

It appears that age has a very important impact on links-organization in both samples. Also, extraversion and conscientiousness have positive impact on links-organization in sample one, but not in sample two. Compensation was the only trait to yield significant values in sample two. One possible explanation could be the fact that sample two worked for a large organization, where these traits might not translate so rapidly into relationships enhancing links-organization. Since a large part of one's job is performed within a relatively small department, few connections would be made outside. In contrast, sample one generally worked for small organizations, which may make these traits more successful in increasing the number of links within the respective organization.

Also, some of the work perceptions showed significant relationships in sample one, but failed to reach significance in sample two. One explanation could be the fact that

organization size mediates the effect of work perceptions on links-organization. These hypotheses merit further investigation.

Fit-organization

Regression of fit-organization on the antecedents clusters revealed the following differences and similarities between the samples (see Figure 10)

Regression of fit-organization on clusters of antecedents			**Sample one**		**Sample two**	
Demographics	Age		ns	4%	**	16%
	Strength of attachment		**		*	
Traits	Agreeableness		ns	15%	**	31%
	Conscientiousness		**		*	
	Openness		** (-)		ns	
Motivation	Extrinsic	Outward	**		ns	
	Intrinsic	Challenge	ns		marginal	
Work perceptions	Support	Supervisor support	ns	47%	**	36%
		Organizational support	***		ns	
	Job investments		*		**	
	Alternatives		*** (-)		marginal (-)	
Mating factors	Mating in organization		marginal	2%	**	9%

FIGURE 10: Significant values of regressions of fit-organization on antecedents. Marginal: $p < .10$; *: $p < .05$; **: $p < .01$; **: $p < .001$; (-): negative correlation. Percentages represent how much of the variance is accounted for by the antecedents.

From Figure 10 it can be observed that age plays a significant role in sample two but not in sample one. Strength of attachment plays a significant role in both samples. Also, conscientiousness plays an important role in both samples, while agreeableness appears highly significant in sample two. Work perceptions showed significant correlations, accounting for significant variance in both samples (47% and 36%, respectively). The only difference in the perceptions about work cluster was that in sample one

organizational support showed significant correlations, while, in sample two, supervisor support showed significant correlations. This is an interesting difference. It can be attributed to the fact that although sample two consisted of people working for the same organization, they worked for very different divisions with different cultures and perceptions. It makes sense that organizational micro-level support would be more salient, rather than overall organizational support. Sample one, on the other hand, consisted of people working for smaller organizations where people may tend to value the overall support more, precisely because supervisor support may be negligible (people report to only one or a few people). A large percentage of people in sample one reported working for law firms or consulting firms, and very few reported working for very large organizations. This is why, perhaps, correlations between organizational support and fit-organization emerged in sample one, and correlations between supervisor support and fit-organization emerged in sample two.

Perceived number of alternatives emerged as a significant factor in sample one, and also yielded a marginal effect in sample two. Perceived mating opportunities were in the predicted direction in both samples significant in sample two, suggesting that this is an important factor that is generalizable.

Sacrifice-organization

Comparisons of regressions of sacrifice-organization on the antecedents clusters revealed the following similarities and differences between the samples (see Figure 11).

Regression of sacrifice-organization on clusters of antecedents				Sample one		Sample two	
Traits	Big Five	Agreeableness		*	6% (F=1.13 ns)	*	25%
		Neuroticism		ns		** (-)	
	Motivation	Extrinsic	Outward	ns		*	
			Compensation	ns		* (-)	
Work perceptions	Skills transferability			*	45%	**	51%
	Supervisor support			***		***	
	Organizational support			***		ns	
	Perceived number of alternatives			*** (-)		** (-)	

FIGURE 11: Significant values of regressions of sacrifice-organization on antecedents. *: $p < .05$; **: $p < .01$; ***; $p < .001$; (-): negative correlation. Percentages represent how much of the variance is accounted for by the antecedents.

Agreeableness showed significant correlations on both samples, and neuroticism showed a negative correlation in sample two. The perceptions about work cluster correlated significantly with sacrifice in both samples, with the exception of organizational support, which did not reach significance in sample two. Skills transferability, supervisor support, and perceived number of alternatives reached significance in both samples.

DISCUSSION

The goal of this study was to identify some antecedents of embeddedness. As explained in the previous sections, I only tried to identify antecedents that related to the individual and which could be tested through self-reports. I deliberately excluded from these considerations antecedents that would relate purely to organizations, such as human resources policies, training systems, technology and access to information, career plans, compensation, succession plans, etcetera. These organizational factors certainly 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.

The present study investigated only 'individual factors'. Individual factors relate in one way or another to the organizational actor, his/her modes of perceptions and his/her feelings about various organizational issues. Assessment of these factors utilized self-reports along with some organizational data collected from the institutions that were investigated.

The results of these two studies are promising. Most importantly, there is a reasonable similarity between the two samples in the relationships between antecedents and various embeddedness dimensions. In the next few paragraphs each of the

hypotheses will be considered from the perspective of their confirmation or non-confirmation.

Demographic factors

Age correlated significantly with *links-community* and accounted for important variance in links-community in both samples. As predicted in *Hypothesis 1A*, age should correlate with links-community because older people would have had more time to integrate better in their communities, increasing the number of attachments between themselves and various factors in their respective communities. This prediction was confirmed by the analyses.

Age was also a predictor of *links-organization* in both samples. Indeed, *Hypothesis 1B* stated that age will be an antecedent of links-organization because older people would have had more opportunities (time) to create attachments with various organizational factors. This prediction was confirmed in the analyses.

Number of children was hypothesized to correlate with links-community. *Hypothesis 4A* stated that increased number of children should correlate with links-community because of various activities that relate to children care such as schooling, car pooling, new friendships with children's friends' parents, etcetera. This prediction was confirmed in the analyses of both samples.

Community tenure was hypothesized to predict embeddedness (*Hypothesis 2*). Interestingly, time correlated negatively with fit-community in sample two (Hypothesis 2B predicted a positive correlation), suggesting that over time living in big cities may actually accentuate the level of misfit with the community, and, in accord with Hypothesis 2A, showed a positive correlation with sacrifice-community in sample one, suggesting that various attachments consolidated in time are hard to give up. However,

given the fact that the correlations did not replicate across the two samples, the effect of time on embeddedness remains unclear. Further empirical investigation needs to be done to clarify the role of time on overall embeddedness.

Strength of attachment was hypothesized to correlate with fit-community and sacrifice-community (*Hypotheses 3A* and *3B*, respectively), as well as with links-organization (*Hypotheses 3C*). Though the correlations did not replicate across the two samples, hypotheses 3A and 3B were confirmed in sample one and hypothesis 3C was confirmed in sample two. Hypothesis 3C argued that strength of attachment should negatively correlate with links-organization, because people who are already in a relationship may be less inclined to spend time with co-workers and actively seeking friendships (e.g., happy Fridays); this should act against links-organization. This hypothesis was confirmed in sample two but not in sample one.

Traits and Motivation

Agreeableness emerged as a factor correlating with *sacrifice-organization* in both samples. As predicted in *Hypothesis 5A* agreeable individuals who make friends easily should find it harder to give all these up and leave. Consequently they should perceive the sacrifices incurred by leaving as higher. This prediction was confirmed in the analyses. *Hypothesis 5B* ('agreeableness also will also correlate positively with sacrifice-community') yielded significant values only in sample one.

Conscientiousness from the Big Five factors yielded significant correlations with *fit-organization* in both samples. As predicted, (Hypothesis 5C), conscientious people are more likely to become involved in various organizational tasks and perform the job at a high level. Such people apparently have an increased level of fit with the environment they spend most of their time in.

Hypothesis 5D predicted that *extraversion* would correlate with *links-organization*. This effect was observed in sample one, but not in sample two. The effect of extraversion on links-organization is thus unclear, although the trend is in the anticipated direction.

I had also hypothesized that *intrinsic* and *extrinsic motivations* are antecedents of embeddedness. They are conceptualized as dispositions, affecting the ways in which an individual is motivated by work. *Hypothesis 6A* and *6B* stated that intrinsic motivation should correlate with fit-organization, while extrinsic motivation should correlate with sacrifice organization. These hypotheses were not confirmed in the analyses. Intrinsic and extrinsic motivations did not yield significant correlations with fit-organization and sacrifice-organization, but subscales of intrinsic and extrinsic motivation did yield some significant correlations. Thus, in sample two the *compensation* subscale of extrinsic motivation correlated negatively with sacrifice-organization, and the *outward* subscale of extrinsic motivation correlated positively with sacrifice organization. Based on these findings, the effects of intrinsic and extrinsic motivation on embeddedness seem to be unclear and more research needs to be done to find the roles of these motivations in embeddedness.

Perceptions about work cluster

Support (*organizational support* in sample one and *supervisor support* in sample two) showed the predicted correlations with *fit-organization*, consistent with Hypothesis 8B. People who perceive that their organization supports them should be more likely to subjectively experience increased levels of fit with the organization and this prediction was confirmed in the analyses. The fact that organizational support yielded significant values in sample one and supervisor support yielded significant values in sample two can

be attributed to the fact that sample two worked for a large departmentalized institution, in which much more work relationships are taking place within one's department. Sample one, in contrast, generally worked for small to medium size companies, where people generally report to the general manager / CEO who represents the organization as a whole.

Support (supervisor support) also showed the predicted positive correlations with *sacrifice-organization* in both samples. People who perceive that their supervisor is attentive to their needs and their work satisfaction should find it harder to break the net and leave (*Hypothesis 8A*), and this prediction was also confirmed.

Skills transferability showed the predicted correlations with *sacrifice-organization* in both samples. Perceiving that the organization is providing one with the opportunity of developing transferable skills should enhance the value of that organization (*Hypothesis 11A*). This prediction was confirmed.

Perceived number of alternatives correlated negatively with *fit-organization*, as predicted (*Hypothesis 9B*). People who have many opportunities to switch jobs should find it easier to break the net that enmeshes them and leave. This prediction was confirmed.

Also as predicted, *perceived number of alternatives* correlated negatively with *sacrifice-organization* in both samples. The more job alternatives one has, the less likely the person will experience a high level of sacrifice-organization (*Hypothesis 9A*). Arguably, certain things are less valuable for a person if they are relatively easily replaceable. This is probably the psychological mechanism at work here.

Job investments correlated with fit-organization in both samples. The more effort one puts in his/her job, the more likely the person will experience high levels of embeddedness, in the form of a better fit with the organization (*Hypothesis 10A*). This

prediction was confirmed in the analyses, suggesting that the effort one puts in his/her job is a precursor of fit-organization.

Role ambiguity (*Hypothesis 7A*) was another antecedent hypothesized to correlate with embeddedness (more precisely with fit-organization). Role ambiguity showed no significant correlations in either sample, suggesting that it is not an antecedent of embeddedness.

Mating

One of the more intriguing findings in this study are the interesting correlations (albeit predicted) between people's perceptions of their mating opportunities and embeddedness.

Mating in community correlated significantly with *fit-community* in both samples. More mating opportunities relate to an enhanced level of fit with that particular environment (*Hypothesis 12A*), a prediction that was confirmed. More mating opportunities should also be associated with greater perceived sacrifices in the event of separating from that particular environment (*Hypothesis 12B*). Indeed, *mating in community* emerged as an antecedent of *sacrifice-community* in both samples, confirming this hypothesis.

Directly related to the above, *mating in organization* emerged as an antecedent of *fit-organization* in both samples. People who perceive that they have opportunities to find a mate in the organization they work for experience a higher level of fit with that organization (*Hypothesis 12C*). This prediction was also confirmed in the analyses of both samples.

CONCLUSIONS, LIMITATIONS AND IMPLICATIONS

Conclusions

The similarities between the samples are informative. When such similarities are found across different samples, an argument toward generalizability can be made. Based on the results so far, one can argue that *age, number of children, conscientiousness, agreeableness, job investments, support, skills transferability, perceived number of alternatives,* and *perceived mating opportunities in both community and organization* are antecedents of job embeddedness. They were all shown to account for important variation and to correlate in the predicted direction with various dimensions of job embeddedness in both samples. Figure 12, which contains only the antecedents found significant in both samples, illustrates this more clearly.

Notably absent from the empirically derived diagram in Figure 12 is *time*. Time has not yielded significant values in both samples for the predicted variables. Time did correlate with sacrifice-community in sample one, but failed to reach significance in sample two, and showed a negative correlation with fit-community in sample two. Age displayed a much stronger effect on embeddedness than time, which suggests that rather than the time spent in a community, the maturity of a person makes a difference in embeddedness. Indeed, in hindsight, one can think that even if a person has spent 10 years in an environment, if s/he is still young (e.g., 30 years old) the person would have the psychological readiness, for example, to relocate from one coast to the other without incurring high psychological costs. In contrast, a person who is relatively older may find it harder to manifest such psychological readiness. These assumptions are empirical questions that merit further investigation.

Also, extraversion failed to make the list in this diagram. Extraversion was theorized to correlate with links-organization. Extraversion did correlate significantly with links-organization in sample one ($p < .05$), but failed to reach significance in sample two. Conceivably, extraversion may not necessarily translate into a richer net of friendships, in the manner of agreeableness. An extraverted individual may actually be disliked by people. Hence, the relationship between extraversion and embeddedness may be mediated by agreeableness.

Notably present in the diagram is the mating variable, which yielded strong correlations and accounted for significant variance in embeddedness in both samples. One of the weaknesses of this study is an under-emphasis on this variable, which clearly merits further investigation. Included initially as an exploratory variable which might well correlate with embeddedness, a pilot study revealed the predicted correlations between mating and embeddedness. Further research should aim at developing a more comprehensive 'biological' scale, which might target basic evolutionary needs such as mating and survival and how an organization addresses them. Developing such a scale may be challenging because some of the items that clearly relate to survival are also items used in other organizational measures (e.g., salary level), so the possibility of an overlap may be present. Other items, however, such as an organization's ability to ensure the safety of its people when serious events occur (e.g., terrorist attacks) will be less likely to overlap with other measures, so this avenue clearly has a lot of research potential. Moreover, including evolutionary-derived concepts in organizational psychology would bridge a gap between two otherwise unrelated fields, which should contribute to a more complete understanding of organizational behavior.

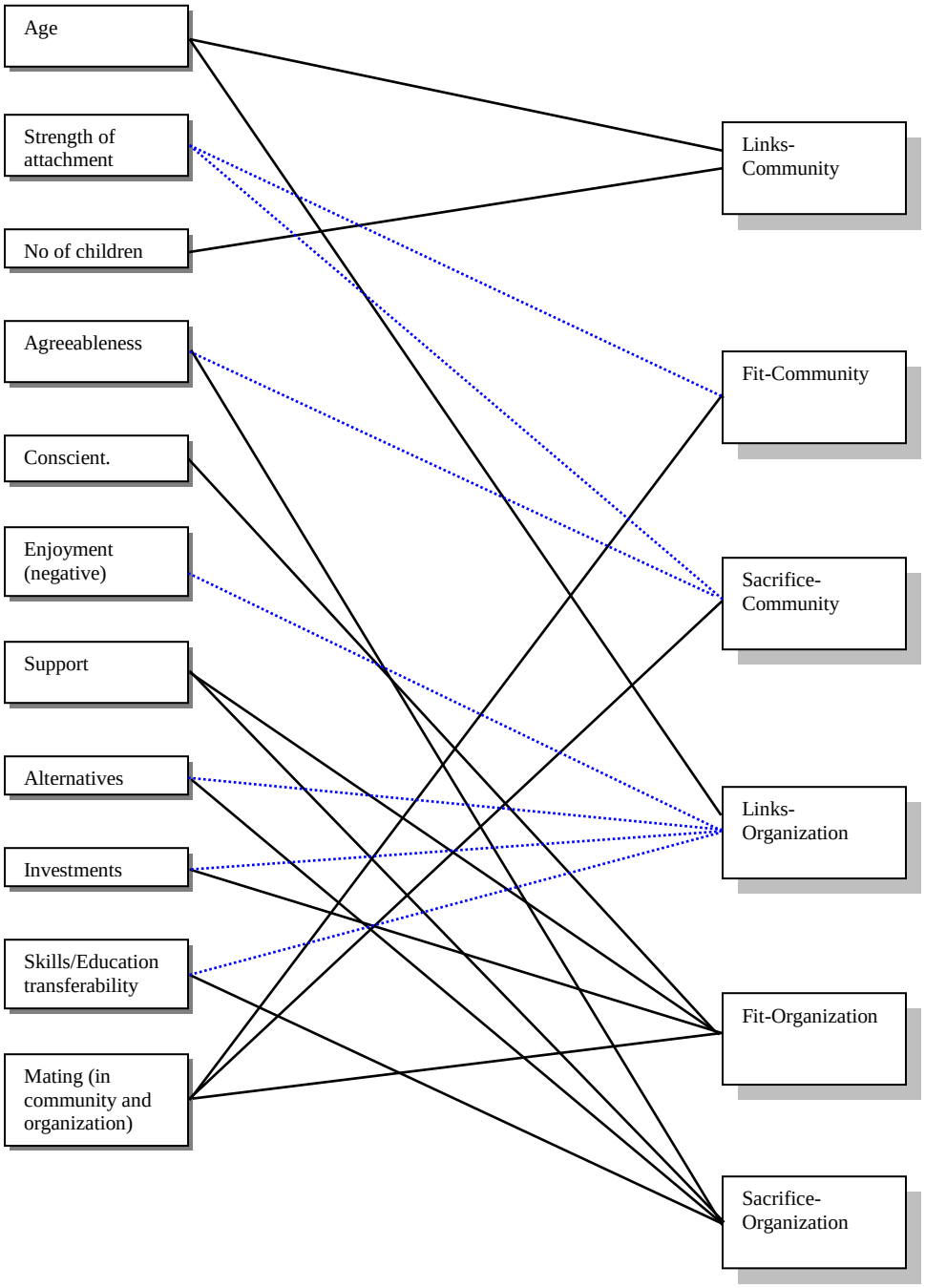

FIGURE 12: Empirically derived antecedents of embeddedness. The continuous line represents correlations found across both samples. The dotted lines represent highly significant correlations in sample one (the larger sample), which did not replicate in sample two. Marginal correlations ($p < .10$) in one sample and significant in the other sample were considered replications.

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, thus raising questions about the direction of causality. Furthermore, collecting the data at two different times does not guarantee the direction of causality either, although it strengthens such an argument.

Demographics, traits, work perceptions and mating opportunities predict embeddedness, but one cannot rule out the possibility that embeddedness may affect some of these variables, especially in the work perceptions cluster. Study one addressed this deficit in study one, where the endogenous and exogenous variables were administered at different moments in time. Although the results in sample one strongly suggest that causality goes from the proposed antecedents to the embeddedness dimension, longitudinal studies are needed for more rigorous tests of causal direction.

Another deficit 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 objectivity of the responses may be affected or influenced by self-enhancement biases therefore there is a need for studies that collect data from both the actors and organization insiders. The *magnitude* of the correlations between variables is unlikely to be affected by such a 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). 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. Although some of the scales used in the present survey were similar across measures, others were markedly dissimilar (e.g., the scales for intrinsic / extrinsic motivation, or 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 an issue.

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 for each of the dependent variables. However, it would have been more 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 a model of the complexity I proposed would require a sample size of 1000-1200 subjects to make the structural equation modeling approach feasible.

Yet another limitation of these studies is the operationalization of the mating variable proposed as an antecedent to embeddedness. Initially introduced for exploratory purposes the dimension was retained and included in the final model because of the significant correlations it yielded in a pilot study. This variable was operationalized through two items, one targeting perceived mating opportunities within the organization, another targeting perceived mating opportunities within the community. Scales containing just one or two items are subject to criticism in the literature. A follow up

study should aim at operationalizing mating by including a reasonable number of items generated in the paradigm of evolutionary psychology. The fact that this factor yielded significant correlations despite the very small number of items is encouraging and reveals the potential benefits of applying insights from evolutionary psychology to organizational psychology.

Another limitation of this study is the response rate in sample two. Sample one had a virtually 100% response rate, while sample two yielded 25% response rate. Not surprisingly, more significant correlations were generated by sample one. One explanation is the fact that sample one was more heterogeneous than sample two. Respondents in the sample two could have been more homogeneous, which would reduce variability and magnitude of the correlations. Follow up studies should aim at administering the survey to much larger samples and come with the necessary resources to ensure high response rates. This would address any inconsistencies found in the two groups (e.g., variables that correlated with embeddedness in one group but did not correlate with embeddedness in the other group).

Yet another limitation of these studies is the fact that both samples were located in North America, which raises questions about cross-cultural generalizability. I have tried to minimize this issue by administering the instrument to two very different populations, and sample one in particular was very ethnically heterogeneous. However, cross-cultural generalizability still remains an issue, and follow up studies should test the embeddedness construct, and the antecedents, in other cultures.

Despite these caveats, these two studies clearly show that there are many factors that have an important impact on embeddedness. Despite the sample sizes, significant correlations were obtained between various proposed antecedents and embeddedness in both samples. 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 further research

In the previous studies that addressed embeddedness, the effects of race and gender have not been documented, or have tested negative. As gender and race have sometimes important roles in work/family attitudes, it is important to analyze whether these variables play any roles in the two samples that have been under investigation in the present study.

As described earlier, sample one was very heterogeneous (see Figure 13): race distribution was roughly the same between Whites, Blacks, and Hispanics. Sample two, on the other hand, was much more homogeneous, consisting mostly of Whites (see Figure 14).

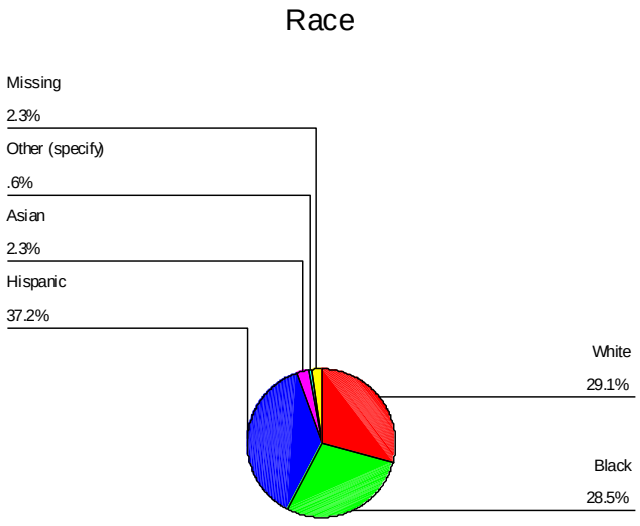

Figure 13. Race distribution in sample one

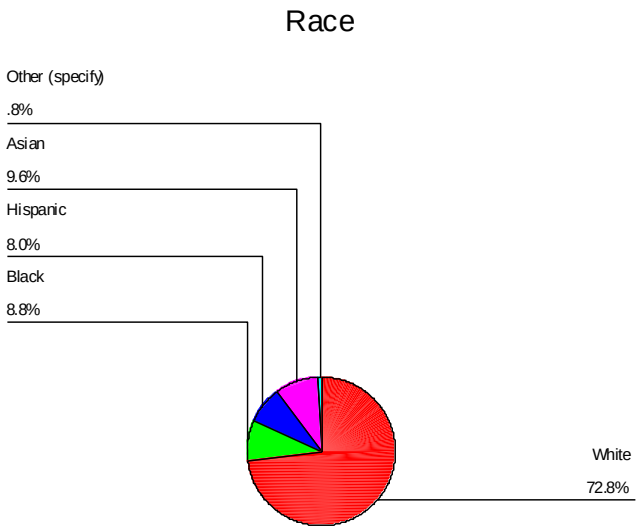

Figure 14. Race distribution in sample two.

An exploratory analysis of variance was performed for both samples. In neither sample gender yielded significant correlations with overall embeddedness (see Appendix 4A and 4B). However, in both samples race correlated significantly with overall embeddedness ($F = 2.61$, $p < .03$, $df = 4$ for sample one, $F = 8.28$, $p < .000$, $df = 4$ for sample two, respectively) (see Appendix 4A and Appendix 4B, respectively). Asians reported the highest level of embeddedness in sample one, closely followed by Whites (see Figure 15). In sample two, Whites reported the highest embeddedness level, closely followed by Asians. In both samples Hispanics and Blacks reported lower levels of embeddedness that Whites and Hispanics.

These findings are interesting and may constitute an avenue for further research. There are a few possible explanations for the effects of race on embeddedness. One possible explanation is that social networks differ as a function of race (and gender). Perhaps the characteristics of these social networks make a group more likely to experience higher embeddedness levels. Another possible explanation is that perhaps a factor, which was not explored in this study, influences both embeddedness and race, and, as a consequence, race appears related to embeddedness, while in fact the effect should be attributed to this factor. One possible such factor is salary: There are well-known differences in salary levels by race (with Whites and Asians typically earning more than Hispanics and Blacks), and one might speculate that salary correlates with embeddedness. Another possible such factor is job status. Whites and Asians typically

have higher-level jobs (which usually correlate with higher salaries) then the other major race categories. Higher-level jobs usually come with increased responsibilities, more influence, and greater number of work contacts. All these should correlate with embeddedness. All these are speculations that merit further investigation, but clearly the effect of race on embeddedness should be analyzed in the context of some other organizational and social factors that might influence embeddedness.

Practical implications of these studies

The present study has taken a recent development in turnover research – embeddedness – and analyzed it in the light of its possible antecedents. Embeddedness is primarily a construct that taps into the likelihood of leaving/staying with an organization, and higher embeddedness levels were shown to correlate with lower voluntary turnover levels. In the previous pages a comprehensive literature review of voluntary turnover was presented, along with a description of the embeddedness construct and an analysis of its antecedents.

Embeddedness can be increased through a series of organizational measures, such as instituting a mentorship system, or increasing the number of work teams an individual participates in. Since embeddedness is directly related to actual turnover, implementing measures that increase embeddedness will have a negative effect on turnover.

The present study makes a step further in the voluntary turnover research, in that it illustrates the factors that may lead to higher levels of embeddedness. Some of these factors constitute stable personality traits which can be assessed *prior* to the organizational entry. Others are factors which can be manipulated *after* the organizational entry. In practical terms, actual turnover can be affected by personnel selection procedures that put into the equation variables that have been shown to predict embeddedness.

A quick glimpse at Figure 12 reveals that, in practice, people likely to become embedded are those who score highly on agreeableness and conscientiousness, as well as those who perceive that the organization supports them, and those who believe that their skills are transferable. The Big Five traits can be assessed prior to the organizational entry, using short self-reports such as the BFI. Selecting people who score highly on agreeableness and conscientiousness may be one method of selecting people likely to become embedded. After the organizational entry, one possible way to increase embeddedness is by increasing organizational and supervisor. Figure 12 also suggests that training people to become highly specialized in a transferable domain (which works by increasing sacrifice-organization) may be another method to increase embeddedness. Yet another method implied in Figure 12 is selection of people who perceive that they don't have many job alternatives.

Of course, a legitimate question arises: is reducing voluntary turnover beneficial in all cases? Should an organization aim at zero voluntary turnover? The answer to both questions is no. Voluntary turnover can be beneficial in certain instances. For example, voluntary turnover allows those in secondary job markets to penetrate in primary markets. Also, voluntary turnover can be beneficial for the organizational bottom line, for instance when seniors are replaced with younger, motivated, and less expensive, employees. From this perspective, an organization should not aim at trying to reduce voluntary turnover to zero. Instead, it should aim at retaining its most highly valued employees.

Knowing how to manipulate various dimensions of embeddedness, as well knowing how to select from among job candidates those who are more likely to become embedded in the organization is one way to ensure that key employees won't leave when the organization needs them most.

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APPENDICES

THANK YOU FOR ACCEPTING TO PARTICIPATE IN THIS STUDY!

This study addresses the relationships between various attitudes toward/perceptions about work and oneself.

You will have to fill out a questionnaire which is split in two parts: the first part is being administered now; the second part will be administered to you after three-four weeks.

Your answers will remain only in my possession and are ***completely confidential***. You will not be identified in any way. We are asking you for personal identification with the sole reason of being able to contact you after several weeks with the second part of the questionnaire.

The survey takes approx 30-40 minutes to complete in total. The first part of it takes approx 15-20 minutes to complete, the second part takes approx 10 minutes to complete. Please be honest in your answers, as they will greatly help us understand the complex relationships between various factors that influence us at work.

PLEASE PRINT

Your name: _____

Your email address: _____

Your phone number: _____

Your job title: _____

Do you have a full-time job (defined as working at least 35hrs/week for the same organization)?

Yes No

PLEASE TELL US THE NAME OF THE PERSON WHO REFERRED YOU TO US:

_____

Please circle or write the response that best represents you					

Biographical and Demographic Data						
1. What is your gender?		Male	Female			
2. Marital status (circle one):	Married	Never married (Single)	Divorced	Not married but attached	Not divorced but separated	Other (specify)
3. If you are married or cohabitating, does your spouse/partner work outside the home?		Full-time	Part-time	No	N/A	
4. Please tell us your race (circle one)		White	Black	Hispanic	Asian	Other (Specify)
5. What was your age at your last birthday?		_____				
6. Please tell us the ages of your children, if you have any.		_____	_____	_____	_____	
7. How long have you lived in your community? (years)		_____				
8. Do you own the home you live in? (mortgaged or outright)		Yes	No			
9. How many organizations do you belong to in the community? (PTA, Little League, church, Boy or Girl Scouts, etcetera)		None	1	2	3	3 +
10. How long have you worked in the industry your are now? (years)		_____				
11. How long have you worked for your organization? (years)		_____				
12. How long have you been in your present position? (years)		_____				
13. How many coworkers are highly dependent on you?		None	1-2	3-5	6-10	10 +
14. How many work teams are you on?		None	1-2	3-5	6-10	10 +
15. How many work committees are you on?		None	1-2	3-5	6-10	10 +
16. What is the highest level of education you achieved?		Some high school	High school	Some college	BA/BS	Advanced degree

BFI Here are a number of characteristics that **may** or **may not** apply to you. For example, do you agree that you are someone who likes to spend time with others? Please mark the answer that best represents you. **I SEE MYSELF AS SOMEONE WHO:**	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1. Is talkative	☐	☐	☐	☐	☐
2. Tends to find fault with others	☐	☐	☐	☐	☐
3. Does a thorough job	☐	☐	☐	☐	☐
4. Is depressed, blue	☐	☐	☐	☐	☐
5. Is original, comes up with new ideas	☐	☐	☐	☐	☐
6. Is reserved	☐	☐	☐	☐	☐
7. Is helpful and unselfish with others	☐	☐	☐	☐	☐
8. Can be somewhat careless	☐	☐	☐	☐	☐
9. Is relaxed, handles stress well	☐	☐	☐	☐	☐
10. Is curious about many different things	☐	☐	☐	☐	☐
11. Is full of energy	☐	☐	☐	☐	☐
12. Starts quarrels with others	☐	☐	☐	☐	☐
13. Is a reliable worker	☐	☐	☐	☐	☐
14. Can be tense	☐	☐	☐	☐	☐
15. Is ingenious, a deep thinker	☐	☐	☐	☐	☐
16. Generates a lot of enthusiasm	☐	☐	☐	☐	☐
17. Has a forgiving nature	☐	☐	☐	☐	☐
18. Tends to be disorganized	☐	☐	☐	☐	☐
19. Worries a lot	☐	☐	☐	☐	☐
20. Has an active imagination	☐	☐	☐	☐	☐
21. Tends to be quiet	☐	☐	☐	☐	☐
22. Is generally trusting	☐	☐	☐	☐	☐
23. Tends to be lazy	☐	☐	☐	☐	☐
24. Is emotionally stable, not easily upset	☐	☐	☐	☐	☐
25. Is inventive	☐	☐	☐	☐	☐
26. Has an assertive personality	☐	☐	☐	☐	☐

27. Can be cold and aloof	☐	☐	☐	☐	☐
I SEE MYSELF AS SOMEONE WHO:	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
28. Perseveres until the task is finished	☐	☐	☐	☐	☐
29. Can be moody	☐	☐	☐	☐	☐
30. Values artistic, aesthetic experience	☐	☐	☐	☐	☐
31. Is sometimes shy, inhibited	☐	☐	☐	☐	☐
32. Is considerate and kind to almost everyone	☐	☐	☐	☐	☐
33. Does things efficiently	☐	☐	☐	☐	☐
34. Remains calm in tense situations	☐	☐	☐	☐	☐
35. Prefers work that is routine	☐	☐	☐	☐	☐
36. Is outgoing, sociable	☐	☐	☐	☐	☐
37. Is sometimes rude to others	☐	☐	☐	☐	☐
38. Makes plans and follows through with them	☐	☐	☐	☐	☐
39. Gets nervous easily	☐	☐	☐	☐	☐
40. Likes to reflect, play with ideas	☐	☐	☐	☐	☐
41. Has few artistic interests	☐	☐	☐	☐	☐
42. Likes to cooperate with others	☐	☐	☐	☐	☐
43. Is easily distracted	☐	☐	☐	☐	☐
44. Is sophisticated in art, music, or literature	☐	☐	☐	☐	☐

WPI Think of your *job* and please mark the answer that represents you best	Never or almost never true of me	Sometimes true of me	Often true of me	Always or almost always true of me
1. I am not that concerned about what other people think of my work	☐	☐	☐	☐
2. I prefer having someone set clear goals for me in my work	☐	☐	☐	☐
3. The more difficult the problem the more I enjoy trying to solve it	☐	☐	☐	☐
4. I am keenly aware of the income goals I have for myself	☐	☐	☐	☐
5. I want my work to provide me with opportunities for increasing my knowledge and skills.	☐	☐	☐	☐
6. To me, success means doing better than other people	☐	☐	☐	☐
7. I prefer to figure out things for myself	☐	☐	☐	☐
8. No matter what the outcome of a project, I am satisfied if I feel I gained a new experience	☐	☐	☐	☐

9. I enjoy relatively simple, straightforward tasks	☐	☐	☐	☐
……Continued from the previous page	Never or almost never true of me	Sometimes true of me	Often true of me	Always or almost always true of me
10. I am keenly aware of the promotion goals I have for myself	☐	☐	☐	☐
11. Curiosity is the driving force behind much of what I do	☐	☐	☐	☐
12. I'm less concerned with what work I do than what I get for it	☐	☐	☐	☐
13. I enjoy tackling problems that are completely new to me	☐	☐	☐	☐
14. I prefer work I know I can do well over work that stretches my abilities	☐	☐	☐	☐
15. I'm concerned about how other people are going to react to my ideas	☐	☐	☐	☐
16. I seldom think about salary and promotions	☐	☐	☐	☐
17. I'm more comfortable when I can set my own goals	☐	☐	☐	☐
18. I believe that there is no point in doing a good job if nobody else knows about it	☐	☐	☐	☐
19. I am strongly motivated by the money I can earn	☐	☐	☐	☐
20. It is important for me to be able to do what I most enjoy	☐	☐	☐	☐
21. I prefer working on projects with clearly specified procedures	☐	☐	☐	☐
22. As long as I can do what I enjoy, I'm not that concerned about exactly what I'm paid	☐	☐	☐	☐
23. I enjoy doing work that is so absorbing that I forget about everything else	☐	☐	☐	☐
24. I am strongly motivated by the recognition I can earn from other people	☐	☐	☐	☐
25. I have to feel that I'm earning something for what I do	☐	☐	☐	☐
26. I enjoy trying to solve complex problems	☐	☐	☐	☐
27. It is important for me to have an outlet for self-expression	☐	☐	☐	☐
28. I want to find out how good I really can be at my work	☐	☐	☐	☐
29. I want other people to find out how good I really can be at my work	☐	☐	☐	☐
30. What matters most to me is enjoying what I do	☐	☐	☐	☐

RA JI ST - Think of your *job* and please mark the answer that best represents how you feel	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1. I know exactly what is expected of me.	☐	☐	☐	☐	☐
2. I know that I have divided my time properly.	☐	☐	☐	☐	☐

3. Explanation is clear of what has to be done.	☐	☐	☐	☐	☐
4. I feel certain about how much authority I have.	☐	☐	☐	☐	☐
…. Continued from the previous page	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
5. I know what my responsibilities are.	☐	☐	☐	☐	☐
6. Clear, planned goals and objectives exist for my job.	☐	☐	☐	☐	☐
7. I have invested in this job more than what most people have invested in their jobs	☐	☐	☐	☐	☐
8. I have spent many unpaid extra hours at work.	☐	☐	☐	☐	☐
9. I have voluntarily engaged in many organization-related activities that are not a formal part of my job (e.g. committee memberships, event planning)	☐	☐	☐	☐	☐
10. The effort that I have put into my job has helped me to become competent in this line of work.	☐	☐	☐	☐	☐
11. I use my free time to read work-related materials that contribute to my competence on the job.	☐	☐	☐	☐	☐
12. I can easily use the knowledge that I have gained while working for this company in another work setting.	☐	☐	☐	☐	☐
13. My actual job performance has improved due to the skills I learned in this job.	☐	☐	☐	☐	☐
14. The skills that I have accumulated while working for this company greatly increased my chances of getting a comparable job elsewhere	☐	☐	☐	☐	☐
15. My resume looks better now, after all the training I have received while in this job.	☐	☐	☐	☐	☐

OS PS **Please check the box that best represents how you feel**	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1. The organization values my contribution to its well-being.	☐	☐	☐	☐	☐
2. The organization strongly considers my goals and values.	☐	☐	☐	☐	☐
3. The organization really cares about my well-being.	☐	☐	☐	☐	☐
4. My supervisor is willing to extend himself in order to help me perform my job to the best of my ability.	☐	☐	☐	☐	☐
5. My supervisor takes pride in my accomplishments at work.	☐	☐	☐	☐	☐
6. My supervisor tries to make my job as interesting as possible.	☐	☐	☐	☐	☐

THANK YOU FOR COMPLETING THIS FIRST PART OF THE QUESTIONNAIRE. YOUR ANSWERS ARE GREATLY APPRECIATED. THE SECOND PART WILL FOLLOW IN A FEW WEEKS - IF YOU HAVE ANY QUESTIONS CONTACT **CEZAR GIOSAN**: giosc024@newschool.edu or 718-205-1841.

THIS IS THE SECOND PART OF A QUESTIONNAIRE THAT YOU FILLED OUT A FEW WEEKS AGO. THANK YOU AGAIN FOR AGREEING TO PARTICIPATE IN THIS STUDY.

TO BE ABLE TO CORRELATE YOUR ANSWERS IN PART ONE AND PART TWO OF THIS SURVEY PLEASE TELL US:

YOUR NAME: _____

DO YOU HAVE THE SAME JOB THAT YOU HAD WHEN YOU COMPLETED THE FIRST PART OF THIS SURVEY? YES NO (Please explain): _____

JE **Please check the box that best represents how you feel**	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1. I really love the place where I live.	☐	☐	☐	☐	☐
2. This community is a good match for me.	☐	☐	☐	☐	☐
3. I think of the community where I live as home.	☐	☐	☐	☐	☐
4. The area where I live offers the leisure activities that I like (sports, outdoors, cultural, arts).	☐	☐	☐	☐	☐
5. My family roots are in this community.	☐	☐	☐	☐	☐
6. I am active in a church in the community.	☐	☐	☐	☐	☐
7. I am active in one or more community organizations (not churches)	☐	☐	☐	☐	☐
8. My coworkers are similar to me.	☐	☐	☐	☐	☐
9. My job utilizes my skills and talents well.	☐	☐	☐	☐	☐
10. I feel like I am a good match for the organization I work for.	☐	☐	☐	☐	☐
11. My values are compatible with the organization's values.	☐	☐	☐	☐	☐
12. I fit with the organization's culture.	☐	☐	☐	☐	☐
13. My supervisors are similar to me in many ways.	☐	☐	☐	☐	☐
14. The values of the top management team here match my own values.	☐	☐	☐	☐	☐
15. I fit with the culture established and maintained by the top management of this organization.	☐	☐	☐	☐	☐
16. My personality matches the personality or image of this organization.	☐	☐	☐	☐	☐
17. My knowledge, skills, and abilities match the requirements of this job.	☐	☐	☐	☐	☐
18. This job is a good match for me.	☐	☐	☐	☐	☐
19. It would be easy for me to date someone working for this company, should I desire so.	☐	☐	☐	☐	☐
20. My goals are compatible with those of this organization.	☐	☐	☐	☐	☐
21. I feel that people at work respect me a great deal.	☐	☐	☐	☐	☐
22. I would sacrifice a lot if I left this job.	☐	☐	☐	☐	☐

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
23. My promotional opportunities are excellent here.	☐	☐	☐	☐	☐
24. The benefits are good on this job.	☐	☐	☐	☐	☐
25. It would be hard to leave my job because I have such a great boss.	☐	☐	☐	☐	☐
26. Leaving this community would be very hard.	☐	☐	☐	☐	☐
27. If I were to leave the community, I would miss my non-work friends.	☐	☐	☐	☐	☐
28. Having to give up my house to relocate would be very difficult.	☐	☐	☐	☐	☐
29. If I were to leave the community, I would miss my daily routine.	☐	☐	☐	☐	☐
30. If I were to leave the community, I would miss my neighborhood.	☐	☐	☐	☐	☐
31. I could easily find a date in the community I live, should I desire so.	☐	☐	☐	☐	☐

JSBI **During the past year have you:**	Yes	No
1. Read a book about getting a new job?	☐	☐
2. Revised your resume?	☐	☐
3. Sent copies of your resume to a prospective employer?	☐	☐
4. Contacted an employment agency or executive search firm to obtain a job with another organization?	☐	☐
5. Read the classified/help wanted advertisements in the newspaper?	☐	☐
6. Gone on a job interview?	☐	☐
7. Talked to friends or relatives about getting a new job?	☐	☐
8. Sought to transfer to a new job within your organization?	☐	☐
9. Talked to co-workers about getting a new job in another organization?	☐	☐
10. Made any telephone inquiries (or sent emails) to prospective employers?	☐	☐

IL **Please circle the answer or check the box that best represents how you feel**	Very Unlikely	Unlikely	Neither Likely nor Unlikely	Likely	Very Likely
1. Do you intend to leave the organization in the next 12 months?	☐	☐	☐	☐	☐
2. How likely is it that you will leave the organization in the next 12 months?	☐	☐	☐	☐	☐
3. How strongly do you feel about leaving the organization within the next 12 months?	Not at all strongly	Not strongly	Neutral	Strongly	Very strongly

JA **Please circle the response that best represents how you feel**					
1. What is the probability that you can find an acceptable alternative to your job?	no chance	25% chance	50% chance	75% chance	100% chance
2. If you search for an alternative job within a year, what are the chances you can find an acceptable job?	no chance	25% chance	50% chance	75% chance	100% chance
3. If you have received a job offer in the past year, to what extent did you consider accepting it?	did not consider	casually	between casually and extensively	extensively	very extensively
4. If you received a job offer today, to what extent would you consider accepting it?	would not consider	casually	between casually and extensively	extensively	very extensively
5. Have you considered quitting your job to pursue non-work options?	did not consider	casually	between casually and extensively	extensively	very extensively

THANK YOU FOR COMPLETING THIS LAST PART OF THE QUESTIONNAIRE. YOUR ANSWERS ARE GREATLY APPRECIATED - IF YOU HAVE ANY QUESTIONS CONTACT CEZAR GIOSAN: giosc024@newschool.edu or 718-205-1841.

Appendix 1: Antecedents and the Embeddedness Survey (Study one).

Correlations

		Enjoymen	Challenge	Outward	mpensati	traversio	reeablen	nscientiousn	Neurotic	Openness	e ambigu	ganization support	pervisor supp	investmels	transferab	lternativeng in commu	Mating in ganizatio
Enjoyment	Pearson Correlation	1	.329*	.316*	.128	.282*	.105	.215*	-.044	.328*	.211*	.097	.071	.214*	.223*	.207*	-.045	.011
	Sig. (2-taile	.	.000	.000	.095	.000	.173	.005	.571	.000	.006	.212	.361	.005	.004	.008	.565	.892
	N	171	171	171	170	171	171	171	171	171	169	168	168	167	167	165	168	167
Challenge	Pearson Correlation	.329*	1	-.226*	.103	.165*	.184*	.398*	-.231*	.488*	.023	-.007	-.007	.140	.018	.179*	.070	.112
	Sig. (2-taile	.000	.	.003	.181	.031	.016	.000	.002	.000	.766	.927	.929	.071	.822	.022	.370	.148
	N	171	171	171	170	171	171	171	171	171	169	168	168	167	167	165	168	167
Outward	Pearson Correlation	.316*	-.226*	1	.186*	.104	-.059	-.132	.156*	-.111	.150	.095	.009	.250*	.263*	-.027	.060	.025
	Sig. (2-taile	.000	.003	.	.015	.176	.441	.085	.042	.147	.052	.220	.906	.001	.001	.730	.441	.748
	N	171	171	171	170	171	171	171	171	171	169	168	168	167	167	165	168	167
Compensatio	Pearson Correlation	.128	.103	.186*	1	.048	-.149	.050	-.003	.088	-.060	-.095	-.160*	.117	.185*	.132	.045	.031
	Sig. (2-taile	.095	.181	.015	.	.533	.053	.516	.965	.256	.441	.223	.039	.132	.017	.092	.567	.694
	N	170	170	170	170	170	170	170	170	170	168	167	167	167	166	164	167	166
Extraversion	Pearson Correlation	.282*	.165*	.104	.048	1	.116	.349*	-.164*	.232*	.271*	.126	.095	.157*	.119	.099	-.005	-.040
	Sig. (2-taile	.000	.031	.176	.533	.	.130	.000	.031	.002	.000	.104	.222	.042	.125	.208	.953	.610
	N	171	171	171	170	172	172	172	172	172	169	168	168	167	167	165	168	167
Agreeablenes	Pearson Correlation	.105	.184*	-.059	-.149	.116	1	.440*	-.349*	.150*	.119	.189*	.281*	.081	.151	.023	.022	.010
	Sig. (2-taile	.173	.016	.441	.053	.130	.	.000	.000	.049	.125	.014	.000	.300	.051	.771	.774	.895
	N	171	171	171	170	172	172	172	172	172	169	168	168	167	167	165	168	167
Conscientious	Pearson Correlation	.215*	.398*	-.132	.050	.349*	.440*	1	-.307*	.318*	.279*	.090	.110	.177*	.206*	-.036	.061	.032
	Sig. (2-taile	.005	.000	.085	.516	.000	.000	.	.000	.000	.000	.244	.157	.022	.008	.643	.432	.680
	N	171	171	171	170	172	172	172	172	172	169	168	168	167	167	165	168	167
Neurotic	Pearson Correlation	-.044	-.231*	.156*	-.003	-.164*	-.349*	-.307*	1	-.186*	-.171*	-.088	-.216*	-.087	-.010	-.167*	-.031	-.132
	Sig. (2-taile	.571	.002	.042	.965	.031	.000	.000	.	.015	.026	.256	.005	.265	.896	.032	.689	.089
	N	171	171	171	170	172	172	172	172	172	169	168	168	167	167	165	168	167
Openness	Pearson Correlation	.328*	.488*	-.111	.088	.232*	.150*	.318*	-.186*	1	.117	-.015	-.026	.087	.096	.146	.128	.022
	Sig. (2-taile	.000	.000	.147	.256	.002	.049	.000	.015	.	.130	.848	.739	.265	.217	.062	.099	.775
	N	171	171	171	170	172	172	172	172	172	169	168	168	167	167	165	168	167
Role ambigui	Pearson Correlation	.211*	.023	.150	-.060	.271*	.119	.279*	-.171*	.117	1	.219*	.241*	.134	.261*	-.059	-.036	-.022
	Sig. (2-taile	.006	.766	.052	.441	.000	.125	.000	.026	.130	.	.004	.002	.084	.001	.454	.648	.774
	N	169	169	169	168	169	169	169	169	169	169	168	168	167	167	165	168	167
Organizationa support	Pearson Correlation	.097	-.007	.095	-.095	.126	.189*	.090	-.088	-.015	.219*	1	.575*	.269*	.384*	-.148	.019	.092
	Sig. (2-taile	.212	.927	.220	.223	.104	.014	.244	.256	.848	.004	.	.000	.000	.000	.059	.807	.237
	N	168	168	168	167	168	168	168	168	168	168	168	168	167	167	164	167	166
Supervisor su	Pearson Correlation	.071	-.007	.009	-.160*	.095	.281*	.110	-.216*	-.026	.241*	.575*	1	.186*	.289*	-.090	-.089	.050
	Sig. (2-taile	.361	.929	.906	.039	.222	.000	.157	.005	.739	.002	.000	.	.016	.000	.254	.255	.522
	N	168	168	168	167	168	168	168	168	168	168	168	168	167	167	164	167	166
Job investmei	Pearson Correlation	.214*	.140	.250*	.117	.157*	.081	.177*	-.087	.087	.134	.269*	.186*	1	.386*	-.062	.091	.143
	Sig. (2-taile	.005	.071	.001	.132	.042	.300	.022	.265	.265	.084	.000	.016	.	.000	.434	.246	.068
	N	167	167	167	167	167	167	167	167	167	167	167	167	167	166	163	166	165
Skills transfer	Pearson Correlation	.223*	.018	.263*	.185*	.119	.151	.206*	-.010	.096	.261*	.384*	.289*	.386*	1	-.009	.070	.034
	Sig. (2-taile	.004	.822	.001	.017	.125	.051	.008	.896	.217	.001	.000	.000	.000	.	.907	.369	.662
	N	167	167	167	166	167	167	167	167	167	167	167	167	166	167	163	166	165
Alternatives	Pearson Correlation	.207*	.179*	-.027	.132	.099	.023	-.036	-.167*	.146	-.059	-.148	-.090	-.062	-.009	1	.085	.055
	Sig. (2-taile	.008	.022	.730	.092	.208	.771	.643	.032	.062	.454	.059	.254	.434	.907	.	.281	.484
	N	165	165	165	164	165	165	165	165	165	165	164	164	163	163	165	164	163
Mating in con	Pearson Correlation	-.045	.070	.060	.045	-.005	.022	.061	-.031	.128	-.036	.019	-.089	.091	.070	.085	1	.366*
	Sig. (2-taile	.565	.370	.441	.567	.953	.774	.432	.689	.099	.648	.807	.255	.246	.369	.281	.	.000
	N	168	168	168	167	168	168	168	168	168	168	167	167	166	166	164	168	167
Mating in org	Pearson Correlation	.011	.112	.025	.031	-.040	.010	.032	-.132	.022	-.022	.092	.050	.143	.034	.055	.366*	1
	Sig. (2-taile	.892	.148	.748	.694	.610	.895	.680	.089	.775	.774	.237	.522	.068	.662	.484	.000	.
	N	167	167	167	166	167	167	167	167	167	167	166	166	165	165	163	167	167

**Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

Appendix 2: correlation matrix between traits, motivation, work perceptions, and biological factors (Study one)

Correlations

		Enjoymen	Challenge	Outward	mpensati	xtraversio	reeablene	nscientiousn	euroticism	Openness	e ambigu	ganizatior support	pervisor supp	investmen	s transferab	lternative	eng in commu	Mating in ganizatio
Enjoyment	Pearson Correlation	1	.387*	.077	-.120	.153	.024	.130	-.068	.442*	-.090	.094	.110	.160	.042	.065	.145	.029
	Sig. (2-taile	.	.000	.386	.175	.082	.787	.140	.442	.000	.310	.287	.214	.070	.640	.461	.106	.748
	N	129	129	129	129	129	129	129	129	129	129	129	129	129	129	129	125	125
Challenge	Pearson Correlation	.387*	1	-.200*	-.129	.178*	.009	.081	-.247*	.364*	.001	.129	.153	.242*	-.024	-.194*	-.087	.162
	Sig. (2-taile	.000	.	.023	.147	.044	.917	.362	.005	.000	.991	.145	.084	.006	.791	.027	.334	.071
	N	129	129	129	129	129	129	129	129	129	129	129	129	129	129	129	125	125
Outward	Pearson Correlation	.077	-.200*	1	.292*	-.076	-.203*	-.092	.177*	-.065	.069	-.040	.032	.091	.070	.093	-.064	.114
	Sig. (2-taile	.386	.023	.	.001	.393	.021	.299	.045	.466	.440	.653	.722	.305	.432	.293	.476	.205
	N	129	129	129	129	129	129	129	129	129	129	129	129	129	129	129	125	125
Compensatio	Pearson Correlation	-.120	-.129	.292*	1	.100	-.088	-.007	-.104	-.111	.184*	-.028	-.022	.296*	.202*	.024	.033	.134
	Sig. (2-taile	.175	.147	.001	.	.257	.321	.936	.242	.212	.037	.755	.803	.001	.022	.787	.715	.136
	N	129	129	129	129	129	129	129	129	129	129	129	129	129	129	129	125	125
Extraversion	Pearson Correlation	.153	.178*	-.076	.100	1	.268*	.412*	-.445*	.297*	.216*	.159	.150	.161	.089	-.043	-.095	.069
	Sig. (2-taile	.082	.044	.393	.257	.	.002	.000	.000	.001	.014	.072	.089	.068	.319	.625	.292	.445
	N	129	129	129	129	129	129	129	129	129	129	129	129	129	129	129	125	125
Agreeablenes	Pearson Correlation	.024	.009	-.203*	-.088	.268*	1	.547*	-.315*	.268*	.117	.186*	.094	.019	.269*	.063	.098	.064
	Sig. (2-taile	.787	.917	.021	.321	.002	.	.000	.000	.002	.185	.035	.287	.830	.002	.481	.279	.475
	N	129	129	129	129	129	129	129	129	129	129	129	129	129	129	129	125	125
Conscientious	Pearson Correlation	.130	.081	-.092	-.007	.412*	.547*	1	-.364*	.404*	.111	.073	-.005	.254*	.023	-.070	-.085	.104
	Sig. (2-taile	.140	.362	.299	.936	.000	.000	.	.000	.000	.211	.409	.951	.004	.794	.433	.345	.246
	N	129	129	129	129	129	129	129	129	129	129	129	129	129	129	129	125	125
Neuroticism	Pearson Correlation	-.068	-.247*	.177*	-.104	-.445*	-.315*	-.364*	1	-.243*	-.269*	-.277*	-.224*	-.182*	-.218*	.276*	.110	-.180*
	Sig. (2-taile	.442	.005	.045	.242	.000	.000	.000	.	.005	.002	.002	.011	.039	.013	.002	.223	.044
	N	129	129	129	129	129	129	129	129	129	129	129	129	129	129	129	125	125
Openness	Pearson Correlation	.442*	.364*	-.065	-.111	.297*	.268*	.404*	-.243*	1	.016	-.035	.030	.059	-.047	.169	.060	.351*
	Sig. (2-taile	.000	.000	.466	.212	.001	.002	.000	.005	.	.856	.697	.735	.506	.600	.056	.506	.000
	N	129	129	129	129	129	129	129	129	129	129	129	129	129	129	129	125	125
Role ambigui	Pearson Correlation	-.090	.001	.069	.184*	.216*	.117	.111	-.269*	.016	1	.636*	.594*	.046	.617*	-.306*	.178*	.149
	Sig. (2-taile	.310	.991	.440	.037	.014	.185	.211	.002	.856	.	.000	.000	.602	.000	.000	.047	.098
	N	129	129	129	129	129	129	129	129	129	129	129	129	129	129	129	125	125
Organizationa support	Pearson Correlation	.094	.129	-.040	-.028	.159	.186*	.073	-.277*	-.035	.636*	1	.764*	.040	.472*	-.378*	.201*	.025
	Sig. (2-taile	.287	.145	.653	.755	.072	.035	.409	.002	.697	.000	.	.000	.650	.000	.000	.025	.781
	N	129	129	129	129	129	129	129	129	129	129	129	129	129	129	129	125	125
Supervisor su	Pearson Correlation	.110	.153	.032	-.022	.150	.094	-.005	-.224*	.030	.594*	.764*	1	-.059	.411*	-.309*	.199*	.112
	Sig. (2-taile	.214	.084	.722	.803	.089	.287	.951	.011	.735	.000	.000	.	.509	.000	.000	.026	.214
	N	129	129	129	129	129	129	129	129	129	129	129	129	129	129	129	125	125
Job investmer	Pearson Correlation	.160	.242*	.091	.296*	.161	.019	.254*	-.182*	.059	.046	.040	-.059	1	.184*	-.012	-.008	.027
	Sig. (2-taile	.070	.006	.305	.001	.068	.830	.004	.039	.506	.602	.650	.509	.	.037	.890	.926	.768
	N	129	129	129	129	129	129	129	129	129	129	129	129	129	129	129	125	125
Skills transfer	Pearson Correlation	.042	-.024	.070	.202*	.089	.269*	.023	-.218*	-.047	.617*	.472*	.411*	.184*	1	-.190*	.299*	.082
	Sig. (2-taile	.640	.791	.432	.022	.319	.002	.794	.013	.600	.000	.000	.000	.037	.	.031	.001	.364
	N	129	129	129	129	129	129	129	129	129	129	129	129	129	129	129	125	125
Alternatives	Pearson Correlation	.065	-.194*	.093	.024	-.043	.063	-.070	.276*	.169	-.306*	-.378*	-.309*	-.012	-.190*	1	.130	.060
	Sig. (2-taile	.461	.027	.293	.787	.625	.481	.433	.002	.056	.000	.000	.000	.890	.031	.	.149	.503
	N	129	129	129	129	129	129	129	129	129	129	129	129	129	129	129	125	125
Mating in con	Pearson Correlation	.145	-.087	-.064	.033	-.095	.098	-.085	.110	.060	.178*	.201*	.199*	-.008	.299*	.130	1	.130
	Sig. (2-taile	.106	.334	.476	.715	.292	.279	.345	.223	.506	.047	.025	.026	.926	.001	.149	.	.150
	N	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125
Mating in org	Pearson Correlation	.029	.162	.114	.134	.069	.064	.104	-.180*	.351*	.149	.025	.112	.027	.082	.060	.130	1
	Sig. (2-taile	.748	.071	.205	.136	.445	.475	.246	.044	.000	.098	.781	.214	.768	.364	.503	.150	.
	N	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125

**Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

Appendix 3: Correlation matrix between traits, motivation, work perceptions and biological factors (sample two)

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Please mark with an X or write the answer that best represents you

Biographical and demographic data

1. Please tell us your gender ☐ Male ☐ Female

2. What is your marital status?
- ☐ Married
- ☐ Never married (single)
- ☐ Divorced
- ☐ Not married but attached
- ☐ Not divorced but separated

3. If you are married or cohabitating, does your spouse/partner work outside the home?
- ☐ No
- ☐ Full-time
- ☐ Part-time
- ☐ N/A

4. Please tell us your race: ☐ White ☐ Black ☐ Hispanic ☐ Asian ☐ Other (specify)

5. What was your age at your last birthday? ☐☐

6. Please tell us the age of your children, if you have any: ☐☐ ☐☐ ☐☐

7. How long have you lived in your community (years)? ☐☐

8. Do you own the home you live in (mortgaged or outright) Y N

9. How many organizations do you belong to? (e.g., PTA, Little League, Church, Boy or Girl Scouts) 1 2 3 4 5

10. How long have you worked in this type of industry? (years) ☐☐

11. How long have you worked for this organization? (Years) ☐☐

12. How long have you been in this position? (years) ☐☐

13. How many co-workers are highly dependent of you? ☐☐

14. How many work teams are you on? ☐☐

15. How many work commitees are you on? ☐☐

16. What is the highest level of education you achieved?

☐ Some high school ☐ High school ☐ Some college ☐ BA/BS ☐ Advanced degree

17. Are you taking classes at the New School? ☐ No ☐ Yes, for a degree ☐ Yes, but not for degree

Y N

18. Was your previous job with the New School? Y N

19. Are you a New School Union Member? Y N

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BFI - Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others? Please darken the answer that best represents you.

Please use the following scale for yor answers: 1 Strongly disagree 2 Disagree 3 Neutral 4 Agree 5 Strongly agree

I SEE MYSELF AS SOMEONE WHO:

	1 2 3 4 5		1 2 3 4 5
1. Is talkative	① ② ③ ④ ⑤	2. Tends to find fault with others	① ② ③ ④ ⑤
3. Does a thorough job.	① ② ③ ④ ⑤	4. Is depressed, blue	① ② ③ ④ ⑤
5. Is original, comes up with new ideas	① ② ③ ④ ⑤	6. Is reserved.	① ② ③ ④ ⑤
7. Is helpful and unselfish with others	① ② ③ ④ ⑤	8. Can be somewhat careless	① ② ③ ④ ⑤
9. Is relaxed, handles stress well	① ② ③ ④ ⑤	10. Is curious about many different things.	① ② ③ ④ ⑤
11. Is full of energy	① ② ③ ④ ⑤	12. Starts quarrels with others	① ② ③ ④ ⑤
13. Is a reliable worker	① ② ③ ④ ⑤	14. Can be tense	① ② ③ ④ ⑤
15. Is ingenious, a deep thinker	① ② ③ ④ ⑤	16. Generates a lot of enthusiasm	① ② ③ ④ ⑤
17. Has a forgiving nature	① ② ③ ④ ⑤	18. Tends to be disorganized	① ② ③ ④ ⑤
19. Worries a lot	① ② ③ ④ ⑤	20. Has an active imagination	① ② ③ ④ ⑤
21. Tends to be quiet	① ② ③ ④ ⑤	22. Is generally trusting	① ② ③ ④ ⑤
23. Tends to be lazy	① ② ③ ④ ⑤	24. Is emotionally stable, not easily upset	① ② ③ ④ ⑤
25. Is inventive	① ② ③ ④ ⑤	26. Has an assertive personality	① ② ③ ④ ⑤
27. Can be cold and aloof	① ② ③ ④ ⑤	28. Perseveres until the task is finished	① ② ③ ④ ⑤
29. Can be moody	① ② ③ ④ ⑤	30. Values artistic, aesthetic experience	① ② ③ ④ ⑤
31. Is sometimes shy, inhibited	① ② ③ ④ ⑤	32. Is considerate and kind to almost everyone	① ② ③ ④ ⑤
33. Does things efficiently	① ② ③ ④ ⑤	34. Remains calm in tense situations	① ② ③ ④ ⑤
35. Prefers work that is routine	① ② ③ ④ ⑤	36. Is outgoing, sociable	① ② ③ ④ ⑤
37. Is sometimes rude to others	① ② ③ ④ ⑤	38. Makes plans and follows through with them	① ② ③ ④ ⑤
39. Gets nervous easily	① ② ③ ④ ⑤	40. Likes to reflect, plays with ideas	① ② ③ ④ ⑤
41. Has few artistic interests	① ② ③ ④ ⑤	42. Likes to cooperate with others	① ② ③ ④ ⑤
43. Is easily distracted	① ② ③ ④ ⑤	44. Is sophisticated in art, music, or literature	① ② ③ ④ ⑤

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Think of your job or the community in which you live and darken the answer that best represents how you feel

Please use the following scale for yor answers: 1 Strongly disagree 2 Disagree 3 Neutral 4 Agree 5 Strongly agree

RA

	1	2	3	4	5
1. I know exactly what is expected of me	①	②	③	④	⑤
2. I know that I have divided my time properly	①	②	③	④	⑤
3. Explanation is clear of what has to be done	①	②	③	④	⑤
4. I feel certain about how much authority I have	①	②	③	④	⑤
5. I know what my responsibilities are	①	②	③	④	⑤
6. Clear, planned goals and objectives exist for my job	①	②	③	④	⑤

JI

	1	2	3	4	5
1. I have invested in this job more than what most people have invested in their jobs	①	②	③	④	⑤
2. I have spent many unpaid extra hours at work	①	②	③	④	⑤
3. I have voluntarily engaged in many organization-related activities that are not a formal part of my job (e.g. commitee memberships, event planning)	①	②	③	④	⑤
4. The effort that I have put into my job has helped me to become competent in this line of work	①	②	③	④	⑤
5. I use my free time to read work-related materials that contribute to my competence on the job	①	②	③	④	⑤

ST

	1	2	3	4	5
1. I can easily use the knowledge that I have gained while working for this institution in another work setting	①	②	③	④	⑤
2. My actual job performance has improved due to the skills I learned in this job	①	②	③	④	⑤
3. The skills that I have accumulated while working for this organization greatly increased my chances of getting a comparable job elsewhere	①	②	③	④	⑤
4. My resume looks better now, after all the training I have received while in this job	①	②	③	④	⑤

OS-SS

	1	2	3	4	5
1. This organization values my contribution to its well-being	①	②	③	④	⑤
2. The organization strongly considers my goals and values	①	②	③	④	⑤
3. The organization really cares about my well-being	①	②	③	④	⑤
4. My supervisor is willing to extend himself in order to help me perform my job to the best of my ability	①	②	③	④	⑤
5. My supervisor takes pride in my accomplishments at work	①	②	③	④	⑤
6. My supervisor tries to make my job as interesting as possible	①	②	③	④	⑤

JE

	1	2	3	4	5
1. I really like the place where I live	①	②	③	④	⑤
2. This community is a good match for me	①	②	③	④	⑤
3. I think of the community where I live as home	①	②	③	④	⑤
4. The area where I live offers the leisure activities that I like (sports, outdoors, cultural, arts)	①	②	③	④	⑤
5. My family roots are in this community	①	②	③	④	⑤
6. I am active in a church in the community	①	②	③	④	⑤
7. I am active in one or more community organizations (not churches)	①	②	③	④	⑤
8. My coworkers are similar to me	①	②	③	④	⑤
9. My job utilizes my skills and talents well	①	②	③	④	⑤
10. I feel I am a good match for this organization	①	②	③	④	⑤
11. My values are compatible with the organization's values	①	②	③	④	⑤

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...Continued from previous page

SCALE: 1 Strongly disagree 2 Disagree 3 Neutral 4 Agree 5 Strongly agree

	1	2	3	4	5
12. I fit with the organization's culture	○	○	○	○	○
13. My supervisors are similar to me in many ways	○	○	○	○	○
14. The values of the top management team here match my own values	○	○	○	○	○
15. I fit with the culture established and maintained by the top management of this organization	○	○	○	○	○
16. My personality matches the personality or image of this organization	○	○	○	○	○
17. My knowledge, skills, and abilities match the requirements of this job	○	○	○	○	○
18. This job is a good match for me	○	○	○	○	○
19. It would be easy for me to date someone working for this organization, should I desire so	○	○	○	○	○
20. My goals are compatible with those of this organization	○	○	○	○	○
21. I feel that people at work respect me a great deal	○	○	○	○	○
22. I would sacrifice a lot if I left this job	○	○	○	○	○
23. My promotional opportunities are excellent here	○	○	○	○	○
24. The benefits are good on this job	○	○	○	○	○
25. It would be hard to leave this job because I have such a great boss	○	○	○	○	○
26. Leaving this community would be very hard	○	○	○	○	○
27. If I were to leave this community I would miss my non-work friends	○	○	○	○	○
28. Having to give up my house to relocate would be very difficult	○	○	○	○	○
29. If I were to leave the community I would miss my daily routine	○	○	○	○	○
30. If I were to leave the community I would miss my neighborhood	○	○	○	○	○
31. I could easily find a date in the community I live, should I desire so	○	○	○	○	○
32. I feel I am a real New Yorker	○	○	○	○	○

JSBI - *DURING THE PAST YEAR HAVE YOU (Mark Yes or No)*

	Y	N
1. Read about getting a new job?	○	○
2. Revised your resume?	○	○
3. Sent copies of your resume to a prospective employer?	○	○
4. Contacted an employment agency or executive search firm to obtain a job with another organization?	○	○
5. Read the classifieds /help wanted advertisements in the newspaper?	○	○
6. Gone on a job interview?	○	○
7. Talked to friends or relatives about getting a new job?	○	○
8. Sought to transfer to a new job within the organization?	○	○
9. Talked to co-workers about getting a new job in another organization?	○	○
10. Made any telephone inquiries or sent emails to prospective employers?	○	○

IL (darken or mark with an X)

	Y	N
1. Do you intend to leave this organization in the next 12 months?	○	○

2. How likely is it that you will leave this organization in the next 12 months?

- ☐ Very unlikely
- ☐ Unlikely
- ☐ Neutral
- ☐ Likely
- ☐ Very likely

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3. How strongly do you feel about leaving the organization in the next 12 months?

- ☐ Not at all strongly
- ☐ Not strongly
- ☐ Neutral
- ☐ Strongly
- ☐ Very strongly

1. What is the probablility that you can find an acceptable alternative to your job?

- ☐ No chance
- ☐ 25% chance
- ☐ 50% chance
- ☐ 75% chance
- ☐ 100% chance

2. If you search for an alternative job within a year, what are the chances that you can find an acceptable job?

- ☐ No chance
- ☐ 25% chance
- ☐ 50% chance
- ☐ 75% chance
- ☐ 100% chance

3. If you have received a job offer in the past year, to what extent did you consider accepting it?

- ☐ Did not consider
- ☐ Casually
- ☐ Between casually and extensively
- ☐ Extensively
- ☐ Very extensively

4. If you received a job offer today, to what extent would you consider accepting it?

- ☐ Would not consider
- ☐ Casually
- ☐ Between casually and extensively
- ☐ Extensively
- ☐ Very extensively

5. Have you considered quitting your job to pursue non-work options?

- ☐ Did not consider
- ☐ Casually
- ☐ Between casually and extensively
- ☐ Extensively
- ☐ Very extensively

Thank you for completing this questionnaire! Your answers are greatly appreciated. If you have any questions, please contact Cezar Giosan at 718-205-1841 or giosc024@newschool.edu.

If you would like to receive the aggregate answers of this survey or if you would like to see how your answers compare with others' please print your email address and you will receive an electronic report.

Email

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Appendix 4. Antecedents and Embeddedness Survey (Study two)

SAMPLE ONE

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.679[a]	.461	.387	.37215

a. Predictors: (Constant), Mating in community, Extraversion, Compensation, Number of children(z), Neurotic, Organizational support, Age (z), Challenge, Role ambiguity, Job investments, Mating in organization, Agreeableness, Alternatives, Outward, Openness, Enjoyment, Skills transferability, Supervisor support, Conscientiousness

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.375	19	.862	6.223	.000[a]
	Residual	19.113	138	.138		
	Total	35.488	157			

a. Predictors: (Constant), Mating in community, Extraversion, Compensation, Number of children(z), Neurotic, Organizational support, Age (z), Challenge, Role ambiguity, Job investments, Mating in organization, Agreeableness, Alternatives, Outward, Openness, Enjoyment, Skills transferability, Supervisor support, Conscientiousness

b. Dependent Variable: Overall embeddedness

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.858	.538		1.594	.113
	Number of children(z)	7.30E-02	.031	.154	2.352	.020
	Age (z)	8.38E-02	.036	.176	2.351	.020
	Enjoyment	-.135	.089	-.120	-1.511	.133
	Challenge	8.98E-02	.071	.104	1.263	.209
	Outward	1.63E-03	.079	.002	.021	.984
	Compensation	-8.7E-02	.063	-.096	-1.387	.168
	Extraversion	7.60E-03	.053	.010	.142	.887
	Agreeableness	9.23E-02	.071	.100	1.308	.193
	Conscientiousness	9.14E-02	.081	.096	1.124	.263
	Neurotic	.105	.059	.130	1.775	.078
	Openness	-3.2E-02	.080	-.030	-.399	.690
	Role ambiguity	-3.4E-02	.056	-.043	-.606	.545
	Organizational support	7.26E-02	.045	.134	1.626	.106
	Supervisor support	8.82E-02	.040	.180	2.179	.031
	Job investments	.122	.051	.177	2.371	.019
	Skills transferability	.110	.059	.152	1.871	.064
	Alternatives	-9.5E-02	.041	-.170	-2.351	.020
	Mating in organization	-3.5E-02	.028	-.087	-1.244	.216
	Mating in community	9.46E-02	.027	.245	3.520	.001

a. Dependent Variable: Overall embeddedness

Appendix 1-S1. Regression of overall embeddedness on all antecedents

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.315[a]	.099	.088	.45403

a. Predictors: (Constant), Age (z), Number of children(z)

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.675	2	1.837	8.913	.000[a]
	Residual	33.396	162	.206		
	Total	37.070	164			

a. Predictors: (Constant), Age (z), Number of children(z)

b. Dependent Variable: Overall embeddedness

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.551	.035		73.691	.000
	Number of children (z)	.107	.035	.224	3.007	.003
	Age (z)	9.98E-02	.035	.210	2.812	.006

a. Dependent Variable: Overall embeddedness

Appendix 2-S1. Regression of overall embeddedness on demographics

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.366[a]	.134	.085	.45468

a. Predictors: (Constant), Openness, Compensation, Neurotic, Outward, Extraversion, Agreeableness, Enjoyment, Conscientiousness, Challenge

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.123	9	.569	2.754	.005[a]
	Residual	33.077	160	.207		
	Total	38.200	169			

a. Predictors: (Constant), Openness, Compensation, Neurotic, Outward, Extraversion, Agreeableness, Enjoyment, Conscientiousness, Challenge

b. Dependent Variable: Overall embeddedness

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.224	.568		2.155	.033
	Enjoyment	-.206	.101	-.183	-2.037	.043
	Challenge	8.38E-02	.081	.097	1.028	.305
	Outward	.111	.087	.110	1.266	.207
	Compensation	-.113	.070	-.125	-1.615	.108
	Extraversion	2.98E-02	.061	.040	.487	.627
	Agreeableness	.145	.080	.157	1.807	.073
	Conscientiousness	.225	.090	.235	2.510	.013
	Neurotic	.105	.066	.130	1.594	.113
	Openness	-1.7E-02	.092	-.016	-.184	.855

a. Dependent Variable: Overall embeddedness

Appendix 3-S1. Regression of overall embeddedness on traits

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.535[a]	.286	.259	.40931

a. Predictors: (Constant), Alternatives, Skills transferability, Role ambiguity, Supervisor support, Job investments, Organizational support

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.483	6	1.747	10.428	.000[a]
	Residual	26.135	156	.168		
	Total	36.618	162			

a. Predictors: (Constant), Alternatives, Skills transferability, Role ambiguity, Supervisor support, Job investments, Organizational support

b. Dependent Variable: Overall embeddedness

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.734	.297		5.836	.000
	Role ambiguity	-2.4E-02	.056	-.031	-.434	.665
	Organizational support	9.68E-02	.047	.179	2.046	.042
	Supervisor support	6.33E-02	.041	.129	1.545	.124
	Job investments	.149	.051	.216	2.919	.004
	Skills transferability	7.24E-02	.057	.099	1.261	.209
	Alternatives	-.144	.039	-.257	-3.750	.000

a. Dependent Variable: Overall embeddedness

Appendix 4-S1. Regression of overall embeddedness on work perceptions

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.226[a]	.051	.039	.46599

a. Predictors: (Constant), Mating in community, Mating in organization

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.910	2	.955	4.398	.014[a]
	Residual	35.612	164	.217		
	Total	37.522	166			

a. Predictors: (Constant), Mating in community, Mating in organization

b. Dependent Variable: Overall embeddedness

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.347	.102		23.109	.000
	Mating in organization	-2.8E-02	.033	-.068	-.837	.404
	Mating in community	9.32E-02	.032	.241	2.954	.004

a. Dependent Variable: Overall embeddedness

Appendix 5-S1. Regression of overall embeddedness on biologic factors

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.409[a]	.167	.157	.46697

a. Predictors: (Constant), Age (z), Number of children(z)

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.085	2	3.542	16.245	.000[a]
	Residual	35.325	162	.218		
	Total	42.410	164			

a. Predictors: (Constant), Age (z), Number of children(z)

b. Dependent Variable: Links-community

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.473	.036		41.378	.000
	Number of children(z)	.139	.037	.274	3.810	.000
	Age (z)	.148	.037	.291	4.047	.000

a. Dependent Variable: Links-community

Appendix 6-S1. Regression of links-community on demographics

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.132[a]	.017	-.012	.51163

a. Predictors: (Constant), Openness, Agreeableness, Extraversion, Neurotic, Conscientiousness

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.766	5	.153	.586	.711[a]
	Residual	43.454	166	.262		
	Total	44.220	171			

a. Predictors: (Constant), Openness, Agreeableness, Extraversion, Neurotic, Conscientiousness

b. Dependent Variable: Links-community

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.708	.571		1.241	.216
	Extraversion	-2.2E-02	.066	-.027	-.325	.746
	Agreeableness	1.23E-02	.088	.012	.140	.889
	Conscientiousness	.128	.096	.125	1.330	.185
	Neurotic	5.23E-02	.073	.060	.717	.474
	Openness	3.86E-02	.092	.034	.419	.676

a. Dependent Variable: Links-community

Appendix 7-S1. Regression of links-community on traits

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.034[a]	.001	-.005	.50975

a. Predictors: (Constant), Mating in community

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.051	1	.051	.196	.658[a]
	Residual	43.135	166	.260		
	Total	43.186	167			

a. Predictors: (Constant), Mating in community

b. Dependent Variable: Links-community

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.432	.100		14.288	.000
	Mating in community	1.42E-02	.032	.034	.443	.658

a. Dependent Variable: Links-community

Appendix 8-S1. Regression of links-community on the biologic factor

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.310[a]	.096	.073	.83253

a. Predictors: (Constant), Number of children(z), Age (z), Strength of attachment, Time in the community (z)

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.480	4	2.870	4.141	.003[a]
	Residual	108.123	156	.693		
	Total	119.603	160			

a. Predictors: (Constant), Number of children(z), Age (z), Strength of attachment, Time in the community (z)

b. Dependent Variable: Fit-community

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.060	.134		22.887	.000
	Age (z)	5.60E-02	.074	.065	.755	.451
	Time in the community (z)	-1.3E-02	.073	-.015	-.176	.861
	Strength of attachment	.126	.040	.260	3.146	.002
	Number of children(z)	6.17E-02	.070	.071	.885	.377

a. Dependent Variable: Fit-community

Appendix 9-S1. Regression of fit-community on demographics

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.284[a]	.080	.052	.84168

a. Predictors: (Constant), Openness, Agreeableness, Extraversion, Neurotic, Conscientiousness

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.109	5	2.022	2.854	.017[a]
	Residual	115.475	163	.708		
	Total	125.583	168			

a. Predictors: (Constant), Openness, Agreeableness, Extraversion, Neurotic, Conscientiousness

b. Dependent Variable: Fit-community

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.491	.948		.518	.605
	Extraversion	3.94E-02	.110	.029	.357	.722
	Agreeableness	.212	.146	.126	1.452	.148
	Conscientiousness	.375	.160	.216	2.349	.020
	Neurotic	.165	.121	.112	1.361	.175
	Openness	1.81E-02	.153	.009	.118	.906

a. Dependent Variable: Fit-community

Appendix 10-S1. Regression of fit-community on traits

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.237[a]	.056	.051	.84245

a. Predictors: (Constant), Mating in community

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.021	1	7.021	9.892	.002[a]
	Residual	117.815	166	.710		
	Total	124.836	167			

a. Predictors: (Constant), Mating in community

b. Dependent Variable: Fit-community

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.950	.166		17.806	.000
	Mating in community	.166	.053	.237	3.145	.002

a. Dependent Variable: Fit-community

Appendix 11-S1. Regression of fit-community on the biologic factor

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.307[a]	.094	.071	.79567

a. Predictors: (Constant), Strength of attachment, Time in the community (z), Number of children(z), Age (z)

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.300	4	2.575	4.068	.004[a]
	Residual	98.762	156	.633		
	Total	109.062	160			

a. Predictors: (Constant), Strength of attachment, Time in the community (z), Number of children (z), Age (z)

b. Dependent Variable: Sacrifice-community

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.750	.128		21.522	.000
	Number of children (z)	7.62E-02	.067	.092	1.144	.254
	Age (z)	3.81E-02	.071	.046	.538	.591
	Time in the community (z)	.136	.070	.164	1.942	.054
	Strength of attachment	9.38E-02	.038	.203	2.447	.016

a. Dependent Variable: Sacrifice-community

Appendix 12-S1. Regression of sacrifice-community on demographics

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.339[a]	.115	.088	.78858

a. Predictors: (Constant), Openness, Agreeableness, Extraversion, Neurotic, Conscientiousness

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.152	5	2.630	4.230	.001[a]
	Residual	101.363	163	.622		
	Total	114.515	168			

a. Predictors: (Constant), Openness, Agreeableness, Extraversion, Neurotic, Conscientiousness

b. Dependent Variable: Sacrifice-community

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-6.9E-03	.888		-.008	.994
	Extraversion	-.138	.103	-.106	-1.336	.184
	Agreeableness	.388	.137	.241	2.834	.005
	Conscientiousness	.322	.150	.194	2.151	.033
	Neurotic	.226	.113	.160	1.991	.048
	Openness	3.58E-02	.143	.020	.250	.803

a. Dependent Variable: Sacrifice-community

Appendix 13-S1. Regression of sacrifice-community on traits

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.308[a]	.095	.090	.78777

a. Predictors: (Constant), Mating in community

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.816	1	10.816	17.428	.000[a]
	Residual	103.018	166	.621		
	Total	113.833	167			

a. Predictors: (Constant), Mating in community

b. Dependent Variable: Sacrifice-community

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.430	.155		15.683	.000
	Mating in community	.207	.049	.308	4.175	.000

a. Dependent Variable: Sacrifice-community

Appendix 14-S1. Regression of sacrifice-community on the biologic factor

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.579[a]	.336	.323	.44971

a. Predictors: (Constant), Strength of attachment, Age (z), Number of children(z)

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.034	3	5.345	26.428	.000[a]
	Residual	31.751	157	.202		
	Total	47.785	160			

a. Predictors: (Constant), Strength of attachment, Age (z), Number of children(z)

b. Dependent Variable: Links-organization

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.974	.071		13.618	.000
	Age (z)	.309	.036	.565	8.538	.000
	Number of children(z)	2.91E-02	.038	.053	.773	.441
	Strength of attachment	1.20E-02	.021	.039	.561	.576

a. Dependent Variable: Links-organization

Appendix 15-S1. Regression of links-organization on demographics

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.384[a]	.147	.099	.51875

a. Predictors: (Constant), Openness, Compensation, Neurotic, Outward, Extraversion, Agreeableness, Enjoyment, Conscientiousness, Challenge

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.387	9	.821	3.050	.002[a]
	Residual	42.787	159	.269		
	Total	50.174	168			

a. Predictors: (Constant), Openness, Compensation, Neurotic, Outward, Extraversion, Agreeableness, Enjoyment, Conscientiousness, Challenge

b. Dependent Variable: Links-organization

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.710	.650		1.092	.276
	Enjoyment	-.374	.116	-.290	-3.239	.001
	Challenge	-.103	.093	-.103	-1.101	.273
	Outward	9.69E-02	.100	.083	.968	.335
	Compensation	-.102	.080	-.098	-1.269	.206
	Extraversion	.151	.070	.176	2.158	.032
	Agreeableness	-2.9E-02	.092	-.027	-.315	.754
	Conscientiousness	.235	.103	.214	2.290	.023
	Neurotic	-3.6E-02	.076	-.038	-.472	.638
	Openness	.147	.106	.122	1.390	.166

a. Dependent Variable: Links-organization

Appendix 16-S1. Regression of links-organization on traits and motivation

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.414[a]	.172	.140	.50682

a. Predictors: (Constant), Alternatives, Skills transferability, Role ambiguity, Supervisor support, Job investments, Organizational support

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.310	6	1.385	5.392	.000[a]
	Residual	40.072	156	.257		
	Total	48.382	162			

a. Predictors: (Constant), Alternatives, Skills transferability, Role ambiguity, Supervisor support, Job investments, Organizational support

b. Dependent Variable: Links-organization

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.290	.368		3.506	.001
	Role ambiguity	7.68E-02	.069	.085	1.109	.269
	Organizational support	-6.3E-02	.059	-.102	-1.080	.282
	Supervisor support	2.69E-03	.051	.005	.053	.958
	Job investments	.238	.063	.301	3.773	.000
	Skills transferability	-.170	.071	-.204	-2.395	.018
	Alternatives	-.174	.048	-.269	-3.641	.000

a. Dependent Variable: Links-organization

Appendix 17-S1. Regression of links-organization on work perceptions

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.111[a]	.012	.006	.54478

a. Predictors: (Constant), Mating in organization

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.605	1	.605	2.037	.155[a]
	Residual	48.674	164	.297		
	Total	49.278	165			

a. Predictors: (Constant), Mating in organization

b. Dependent Variable: Links-organization

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.128	.094		12.055	.000
	Mating in organization	-5.1E-02	.036	-.111	-1.427	.155

a. Dependent Variable: Links-organization

Appendix 18-S1. Regression of links-organization on the biologic factor

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.195[a]	.038	.019	.68937

a. Predictors: (Constant), Strength of attachment, Time in the organization (z), Age (z)

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.879	3	.960	2.019	.114[a]
	Residual	72.711	153	.475		
	Total	75.590	156			

a. Predictors: (Constant), Strength of attachment, Time in the organization (z), Age (z)

b. Dependent Variable: Fit-organization

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.035	.107		28.465	.000
	Age (z)	-3.1E-02	.066	-.045	-.473	.637
	Time in the organization (z)	3.25E-02	.065	.047	.501	.617
	Strength of attachment	7.56E-02	.031	.194	2.405	.017

a. Dependent Variable: Fit-organization

Appendix 19-S1. Regression of fit-organization on demographics

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.385[a]	.148	.100	.66054

a. Predictors: (Constant), Openness, Compensation, Neurotic, Outward, Extraversion, Agreeableness, Enjoyment, Conscientiousness, Challenge

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.983	9	1.331	3.052	.002[a]
	Residual	68.937	158	.436		
	Total	80.920	167			

a. Predictors: (Constant), Openness, Compensation, Neurotic, Outward, Extraversion, Agreeableness, Enjoyment, Conscientiousness, Challenge

b. Dependent Variable: Fit-organization

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.036	.830		2.452	.015
	Enjoyment	-.261	.148	-.159	-1.771	.079
	Challenge	.125	.119	.098	1.049	.296
	Outward	.334	.128	.226	2.613	.010
	Compensation	-.126	.102	-.095	-1.235	.219
	Extraversion	5.98E-02	.089	.055	.668	.505
	Agreeableness	.190	.118	.140	1.617	.108
	Conscientiousness	.309	.131	.221	2.362	.019
	Neurotic	5.67E-02	.097	.048	.587	.558
	Openness	-.293	.135	-.191	-2.176	.031

a. Dependent Variable: Fit-organization

Appendix 20-S1. Regression of fit-organization on traits

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.687[a]	.472	.452	.51539

a. Predictors: (Constant), Alternatives, Skills transferability, Role ambiguity, Supervisor support, Job investments, Organizational support

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37.060	6	6.177	23.253	.000[a]
	Residual	41.438	156	.266		
	Total	78.497	162			

a. Predictors: (Constant), Alternatives, Skills transferability, Role ambiguity, Supervisor support, Job investments, Organizational support

b. Dependent Variable: Fit-organization

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.868	.374		4.994	.000
	Role ambiguity	-.103	.070	-.090	-1.466	.145
	Organizational support	.367	.060	.462	6.156	.000
	Supervisor support	7.92E-02	.052	.111	1.535	.127
	Job investments	.141	.064	.140	2.199	.029
	Skills transferability	9.84E-02	.072	.092	1.362	.175
	Alternatives	-.191	.049	-.232	-3.939	.000

a. Dependent Variable: Fit-organization

Appendix 21-S1. Regression fit-organization on work perceptions

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.135[a]	.018	.012	.69180

a. Predictors: (Constant), Mating in organization

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.470	1	1.470	3.071	.082[a]
	Residual	78.966	165	.479		
	Total	80.436	166			

a. Predictors: (Constant), Mating in organization

b. Dependent Variable: Fit-organization

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.071	.118		25.924	.000
	Mating in organization	7.99E-02	.046	.135	1.752	.082

a. Dependent Variable: Fit-organization

Appendix 22-S1. Regression of fit-organization on the biologic factor

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.176[a]	.031	.012	.68661

a. Predictors: (Constant), Time in the organization (z), Strength of attachment, Age (z)

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.294	3	.765	1.622	.187[a]
	Residual	72.128	153	.471		
	Total	74.422	156			

a. Predictors: (Constant), Time in the organization (z), Strength of attachment, Age (z)

b. Dependent Variable: Sacrifice-organization

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.140	.106		29.569	.000
	Strength of attachment	3.91E-02	.031	.101	1.249	.214
	Age (z)	-.118	.065	-.171	-1.812	.072
	Time in the organization (z)	9.92E-02	.065	.144	1.537	.126

a. Dependent Variable: Sacrifice-organization

Appendix 23-S1. Regression of sacrifice-organization on demographics

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.246[a]	.060	.007	.68829

a. Predictors: (Constant), Openness, Compensation, Neurotic, Outward, Extraversion, Agreeableness, Enjoyment, Conscientiousness, Challenge

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.818	9	.535	1.130	.345[a]
	Residual	74.852	158	.474		
	Total	79.670	167			

a. Predictors: (Constant), Openness, Compensation, Neurotic, Outward, Extraversion, Agreeableness, Enjoyment, Conscientiousness, Challenge

b. Dependent Variable: Sacrifice-organization

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.073	.865		2.396	.018
	Enjoyment	-.151	.154	-.092	-.981	.328
	Challenge	.102	.124	.081	.821	.413
	Outward	.136	.133	.093	1.023	.308
	Compensation	-3.8E-02	.107	-.029	-.360	.719
	Extraversion	4.36E-02	.093	.040	.468	.640
	Agreeableness	.268	.122	.199	2.185	.030
	Conscientiousness	3.00E-02	.137	.022	.220	.826
	Neurotic	.151	.101	.128	1.498	.136
	Openness	-.152	.140	-.100	-1.084	.280

a. Dependent Variable: Sacrifice-organization

Appendix 24-S1. Regression of sacrifice-organization on traits

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.667[a]	.445	.424	.52434

a. Predictors: (Constant), Alternatives, Skills transferability, Role ambiguity, Supervisor support, Job investments, Organizational support

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	34.395	6	5.732	20.850	.000[a]
	Residual	42.890	156	.275		
	Total	77.285	162			

a. Predictors: (Constant), Alternatives, Skills transferability, Role ambiguity, Supervisor support, Job investments, Organizational support

b. Dependent Variable: Sacrifice-organization

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.431	.381		6.387	.000
	Role ambiguity	-.107	.072	-.094	-1.487	.139
	Organizational support	.300	.061	.382	4.954	.000
	Supervisor support	.143	.053	.202	2.733	.007
	Job investments	-8.1E-02	.065	-.081	-1.234	.219
	Skills transferability	.173	.074	.164	2.354	.020
	Alternatives	-.239	.049	-.293	-4.852	.000

a. Dependent Variable: Sacrifice-organization

Appendix 25-S1. Regression of sacrifice-organization on work perceptions

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.071[a]	.005	-.001	.69103

a. Predictors: (Constant), Mating in organization

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.403	1	.403	.844	.360[a]
	Residual	78.790	165	.478		
	Total	79.193	166			

a. Predictors: (Constant), Mating in organization

b. Dependent Variable: Sacrifice-organization

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.157	.118		26.683	.000
	Mating in organization	4.18E-02	.046	.071	.918	.360

a. Dependent Variable: Sacrifice-organization

Appendix 26-S1. Regression of sacrifice-organization on the biologic factor

SAMPLE TWO

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14.812	19	.780	7.625	.000[a]
	Residual	10.429	102	.102		
	Total	25.241	121			

a. Predictors: (Constant), Mating in community, Job investments, Openness, Outward, Number of children (z), Role ambiguity, Agreeableness, Alternatives, Mating in organization, Extraversion, Compensation, Enjoyment, Challenge, Age (z), Neuroticism, Supervisor support, Skills transferability, Conscientiousness, Organizational support

b. Dependent Variable: Overal embeddedness

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9.77E-02	.566		.173	.863
	Number of children (z)	-4.0E-02	.034	-.087	-1.169	.245
	Age (z)	2.60E-03	.040	.006	.065	.948
	Enjoyment	9.78E-02	.109	.076	.897	.372
	Challenge	3.77E-02	.076	.042	.496	.621
	Outward	9.45E-02	.087	.081	1.084	.281
	Compensation	-.179	.046	-.299	-3.853	.000
	Extraversion	9.21E-02	.049	.146	1.871	.064
	Agreeableness	.288	.089	.320	3.252	.002
	Conscientiousness	-5.7E-02	.090	-.061	-.627	.532
	Neuroticism	.131	.063	.180	2.073	.041
	Openness	-7.1E-03	.077	-.009	-.091	.927
	Role ambiguity	5.97E-02	.051	.127	1.179	.241
	Organizational support	-4.3E-02	.048	-.102	-.891	.375
	Supervisor support	.117	.042	.305	2.787	.006
	Job investments	.135	.049	.228	2.744	.007
	Skills transferability	3.10E-02	.050	.059	.624	.534
	Alternatives	-.184	.055	-.304	-3.345	.001
	Mating in organization	8.57E-02	.027	.249	3.217	.002
	Mating in community	3.66E-02	.025	.109	1.438	.154

a. Dependent Variable: Overal embeddedness

Appendix 1-S1. Regression of overall embeddedness on all antecedents

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.346[a]	.120	.105	.43197

a. Predictors: (Constant), Age (z), Number of children (z)

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.124	2	1.562	8.371	.000[a]
	Residual	22.951	123	.187		
	Total	26.075	125			

a. Predictors: (Constant), Age (z), Number of children (z)

b. Dependent Variable: Overal embeddedness

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.677	.038		70.375	.000
	Number of children (z)	-7.0E-02	.039	-.153	-1.767	.080
	Age (z)	.157	.039	.343	3.973	.000

a. Dependent Variable: Overal embeddedness

Appendix 2-S2. Regression of overall embeddedness on demographics

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.481[a]	.232	.174	.41519

a. Predictors: (Constant), Openness, Outward, Neuroticism, Compensation, Agreeableness, Challenge, Extraversion, Enjoyment, Conscientiousness

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.187	9	.687	3.988	.000[a]
	Residual	20.514	119	.172		
	Total	26.701	128			

a. Predictors: (Constant), Openness, Outward, Neuroticism, Compensation, Agreeableness, Challenge, Extraversion, Enjoyment, Conscientiousness

b. Dependent Variable: Overal embeddedness

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.636	.675		.941	.348
	Enjoyment	.109	.124	.084	.878	.382
	Challenge	.178	.086	.198	2.076	.040
	Outward	.193	.105	.165	1.839	.068
	Compensation	-.129	.052	-.216	-2.464	.015
	Extraversion	8.72E-02	.060	.138	1.444	.151
	Agreeableness	.272	.090	.302	3.028	.003
	Conscientiousness	-2.0E-02	.100	-.022	-.203	.839
	Neuroticism	-3.2E-02	.070	-.045	-.462	.645
	Openness	-3.7E-02	.082	-.046	-.451	.653

a. Dependent Variable: Overal embeddedness

Appendix 3-S2. Regression of overall embeddedness on traits

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.584[a]	.341	.308	.37990

a. Predictors: (Constant), Alternatives, Job investments, Skills transferability, Supervisor support, Role ambiguity, Organizational support

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.094	6	1.516	10.502	.000[a]
	Residual	17.607	122	.144		
	Total	26.701	128			

a. Predictors: (Constant), Alternatives, Job investments, Skills transferability, Supervisor support, Role ambiguity, Organizational support

b. Dependent Variable: Overal embeddedness

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.770	.286		6.179	.000
	Role ambiguity	7.94E-03	.052	.017	.153	.878
	Organizational support	-7.3E-04	.052	-.002	-.014	.989
	Supervisor support	.158	.045	.410	3.472	.001
	Job investments	8.38E-02	.045	.142	1.872	.064
	Skills transferability	7.36E-02	.050	.141	1.466	.145
	Alternatives	-9.4E-02	.048	-.156	-1.959	.052

a. Dependent Variable: Overal embeddedness

Appendix 4-S2. Regression of overall embeddedness on work perceptions

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.323[a]	.104	.090	.43577

a. Predictors: (Constant), Mating in community, Mating in organization

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.699	2	1.350	7.108	.001[a]
	Residual	23.167	122	.190		
	Total	25.867	124			

a. Predictors: (Constant), Mating in community, Mating in organization

b. Dependent Variable: Overal embeddedness

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.308	.106		21.723	.000
	Mating in organization	8.22E-02	.030	.238	2.760	.007
	Mating in community	6.37E-02	.029	.189	2.190	.030

a. Dependent Variable: Overal embeddedness

Appendix 5-S2. Regression of overall embeddedness on the biologic factor

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.489[a]	.239	.227	.44981

a. Predictors: (Constant), Age (z), Number of children (z)

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.822	2	3.911	19.329	.000[a]
	Residual	24.886	123	.202		
	Total	32.708	125			

a. Predictors: (Constant), Age (z), Number of children (z)

b. Dependent Variable: Links-community

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.452	.040		36.667	.000
	Number of children (z)	.162	.041	.316	3.937	.000
	Age (z)	.161	.041	.314	3.910	.000

a. Dependent Variable: Links-community

Appendix 6-S2. Regression of links-community on demographics

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.227[a]	.052	.013	.50814

a. Predictors: (Constant), Openness, Neuroticism, Agreeableness, Extraversion, Conscientiousness

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.733	5	.347	1.342	.251[a]
	Residual	31.760	123	.258		
	Total	33.493	128			

a. Predictors: (Constant), Openness, Neuroticism, Agreeableness, Extraversion, Conscientiousness

b. Dependent Variable: Links-community

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.000	.636		1.573	.118
	Extraversion	1.72E-02	.073	.024	.235	.815
	Agreeableness	.263	.107	.261	2.457	.015
	Conscientiousness	-.121	.121	-.116	-1.000	.319
	Neuroticism	-1.8E-02	.083	-.022	-.220	.826
	Openness	-2.0E-02	.089	-.022	-.230	.819

a. Dependent Variable: Links-community

Appendix 7-S2. Regression of links-community on traits

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.137[a]	.019	.011	.50877

a. Predictors: (Constant), Mating in community

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.608	1	.608	2.347	.128[a]
	Residual	31.838	123	.259		
	Total	32.446	124			

a. Predictors: (Constant), Mating in community

b. Dependent Variable: Links-community

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.313	.102		12.934	.000
	Mating in community	5.16E-02	.034	.137	1.532	.128

a. Dependent Variable: Links-community

Appendix 8-S2. Regression of links-community on the biologic factor

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.298[a]	.089	.059	.89793

a. Predictors: (Constant), Number of children (z), Time in the community (z), Strength of attachment, Age (z)

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.534	4	2.383	2.956	.023[a]
	Residual	97.560	121	.806		
	Total	107.094	125			

a. Predictors: (Constant), Number of children (z), Time in the community (z), Strength of attachment, Age (z)

b. Dependent Variable: Fit-community

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.886	.192		20.188	.000
	Age (z)	9.89E-02	.103	.107	.961	.339
	Time in the community (z)	-.276	.096	-.298	-2.878	.005
	Strength of attachment	5.03E-03	.052	.009	.097	.923
	Number of children (z)	-.144	.084	-.156	-1.715	.089

a. Dependent Variable: Fit-community

Appendix 9-S2a. Regression of fit-community on demographics

Correlations

		Time in the community (z)	I am a real New Yorker	Age (z)	Fit-community
Time in the community (z)	Pearson Correlation	1	.219*	.544**	-.250**
	Sig. (2-tailed)	.	.012	.000	.004
	N	129	129	126	129
I am a real New Yorker	Pearson Correlation	.219*	1	.107	.116
	Sig. (2-tailed)	.012	.	.231	.190
	N	129	129	126	129
Age (z)	Pearson Correlation	.544**	.107	1	-.083
	Sig. (2-tailed)	.000	.231	.	.355
	N	126	126	126	126
Fit-community	Pearson Correlation	-.250**	.116	-.083	1
	Sig. (2-tailed)	.004	.190	.355	.
	N	129	129	126	129

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix 9-S2b. Correlations between fit-community, time-community, age, and item "I am a real New Yorker"

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.281[a]	.079	.042	.90611

a. Predictors: (Constant), Openness, Neuroticism, Agreeableness, Extraversion, Conscientiousness

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.676	5	1.735	2.114	.068[a]
	Residual	100.987	123	.821		
	Total	109.664	128			

a. Predictors: (Constant), Openness, Neuroticism, Agreeableness, Extraversion, Conscientiousness

b. Dependent Variable: Fit-community

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.011	1.133		2.657	.009
	Extraversion	.264	.131	.207	2.022	.045
	Agreeableness	.381	.191	.209	1.994	.048
	Conscientiousness	-.521	.216	-.275	-2.411	.017
	Neuroticism	.212	.148	.144	1.440	.152
	Openness	1.32E-02	.158	.008	.083	.934

a. Dependent Variable: Fit-community

Appendix 10-S2. Regression of fit-community on traits

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.153[a]	.023	.015	.91847

a. Predictors: (Constant), Mating in community

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.476	1	2.476	2.935	.089[a]
	Residual	103.761	123	.844		
	Total	106.237	124			

a. Predictors: (Constant), Mating in community

b. Dependent Variable: Fit-community

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.622	.183		19.765	.000
	Mating in community	.104	.061	.153	1.713	.089

a. Dependent Variable: Fit-community

Appendix 11-S2. Regression of fit-community on the biologic factor

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.255[a]	.065	.034	.93457

a. Predictors: (Constant), Strength of attachment, Time in the community (z), Number of children (z), Age (z)

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.342	4	1.836	2.102	.085[a]
	Residual	105.685	121	.873		
	Total	113.027	125			

a. Predictors: (Constant), Strength of attachment, Time in the community (z), Number of children (z), Age (z)

b. Dependent Variable: Sacrifice-community

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.424	.200		17.089	.000
	Number of children (z)	-.202	.087	-.213	-2.316	.022
	Age (z)	-.120	.107	-.126	-1.116	.267
	Time in the community (z)	.102	.100	.108	1.025	.307
	Strength of attachment	1.24E-03	.054	.002	.023	.982

a. Dependent Variable: Sacrifice-community

Appendix 12-S2. Regression of sacrifice-community on demographics

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.177[a]	.031	-.008	.95474

a. Predictors: (Constant), Openness, Neuroticism, Agreeableness, Extraversion, Conscientiousness

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.622	5	.724	.795	.555[a]
	Residual	112.118	123	.912		
	Total	115.740	128			

a. Predictors: (Constant), Openness, Neuroticism, Agreeableness, Extraversion, Conscientiousness

b. Dependent Variable: Sacrifice-community

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.720	1.194		2.278	.024
	Extraversion	.110	.138	.084	.798	.426
	Agreeableness	-5.1E-04	.201	.000	-.003	.998
	Conscientiousness	-4.5E-02	.228	-.023	-.198	.843
	Neuroticism	.273	.155	.181	1.759	.081
	Openness	-5.7E-02	.167	-.034	-.343	.732

a. Dependent Variable: Sacrifice-community

Appendix 13-S2. Regression of sacrifice-community on traits

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.165[a]	.027	.019	.94160

a. Predictors: (Constant), Mating in community

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.069	1	3.069	3.462	.065[a]
	Residual	109.053	123	.887		
	Total	112.123	124			

a. Predictors: (Constant), Mating in community

b. Dependent Variable: Sacrifice-community

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.115	.188		16.581	.000
	Mating in community	.116	.062	.165	1.861	.065

a. Dependent Variable: Sacrifice-community

Appendix 14-S2. Regression of sacrifice-community on the biologic factor

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.616[a]	.379	.364	.56010

a. Predictors: (Constant), Strength of attachment, Number of children (z), Age (z)

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	23.353	3	7.784	24.813	.000[a]
	Residual	38.273	122	.314		
	Total	61.626	125			

a. Predictors: (Constant), Strength of attachment, Number of children (z), Age (z)

b. Dependent Variable: Links-organization

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.947	.120		7.884	.000
	Age (z)	.468	.055	.666	8.501	.000
	Number of children (z)	-1.3E-02	.052	-.018	-.243	.808
	Strength of attachment	-6.9E-02	.032	-.169	-2.127	.035

a. Dependent Variable: Links-organization

Appendix 15-S2. Regression of links-organization on demographics

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.416[a]	.173	.110	.66237

a. Predictors: (Constant), Openness, Outward, Neuroticism, Compensation, Agreeableness, Challenge, Extraversion, Enjoyment, Conscientiousness

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.895	9	1.211	2.759	.006[a]
	Residual	52.210	119	.439		
	Total	63.105	128			

a. Predictors: (Constant), Openness, Outward, Neuroticism, Compensation, Agreeableness, Challenge, Extraversion, Enjoyment, Conscientiousness

b. Dependent Variable: Links-organization

Coefficients [a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.810	1.077		-.752	.454
	Enjoyment	-2.4E-02	.197	-.012	-.120	.905
	Challenge	4.17E-02	.137	.030	.305	.761
	Outward	.101	.168	.056	.602	.548
	Compensation	-.208	.083	-.226	-2.493	.014
	Extraversion	.105	.096	.108	1.089	.278
	Agreeableness	4.40E-02	.144	.032	.306	.760
	Conscientiousness	.181	.159	.126	1.142	.256
	Neuroticism	-9.8E-02	.112	-.087	-.871	.385
	Openness	.183	.131	.147	1.395	.166

a. Dependent Variable: Links-organization

Appendix 16-S2. Regression of links-organization on traits

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.272[a]	.074	.028	.69211

a. Predictors: (Constant), Alternatives, Job investments, Skills transferability, Supervisor support, Role ambiguity, Organizational support

ANOVA [b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.664	6	.777	1.623	.146[a]
	Residual	58.441	122	.479		
	Total	63.105	128			

a. Predictors: (Constant), Alternatives, Job investments, Skills transferability, Supervisor support, Role ambiguity, Organizational support

b. Dependent Variable: Links-organization

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.116	.522		2.140	.034
	Role ambiguity	.122	.094	.170	1.297	.197
	Organizational support	-2.5E-02	.096	-.039	-.261	.795
	Supervisor support	-6.4E-02	.083	-.108	-.770	.443
	Job investments	.105	.082	.115	1.282	.202
	Skills transferability	-7.1E-02	.091	-.088	-.774	.440
	Alternatives	-.203	.088	-.219	-2.314	.022

a. Dependent Variable: Links-organization

Appendix 17-S2. Regression of links-organization on work perceptions

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.232[a]	.054	.046	.68574

a. Predictors: (Constant), Mating in organization

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.293	1	3.293	7.004	.009[a]
	Residual	57.840	123	.470		
	Total	61.133	124			

a. Predictors: (Constant), Mating in organization

b. Dependent Variable: Links-organization

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.420	.127		3.306	.001
	Mating in organization	.123	.046	.232	2.646	.009

a. Dependent Variable: Links-organization

Appendix 18-S2. Regression of links-organization on the biologic factor

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.403[a]	.163	.142	.73178

a. Predictors: (Constant), Strength of attachment, Time in the organization (z), Age (z)

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.590	3	4.197	7.837	.000[a]
	Residual	64.795	121	.535		
	Total	77.385	124			

a. Predictors: (Constant), Strength of attachment, Time in the organization (z), Age (z)

b. Dependent Variable: Fit-organization

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.102	.155		19.985	.000
	Age (z)	.245	.085	.310	2.889	.005
	Time in the organization (z)	-6.8E-02	.078	-.086	-.867	.387
	Strength of attachment	9.37E-02	.042	.204	2.237	.027

a. Dependent Variable: Fit-organization

Appendix 19-S2. Regression of fit-organization on demographics

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.559[a]	.312	.260	.67938

a. Predictors: (Constant), Openness, Outward, Neuroticism, Compensation, Agreeableness, Challenge, Extraversion, Enjoyment, Conscientiousness

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.956	9	2.773	6.008	.000[a]
	Residual	54.925	119	.462		
	Total	79.882	128			

a. Predictors: (Constant), Openness, Outward, Neuroticism, Compensation, Agreeableness, Challenge, Extraversion, Enjoyment, Conscientiousness

b. Dependent Variable: Fit-organization

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.251	1.105		.228	.820
	Enjoyment	7.68E-02	.202	.034	.380	.705
	Challenge	.249	.140	.160	1.776	.078
	Outward	-9.8E-02	.172	-.048	-.567	.572
	Compensation	-.155	.086	-.150	-1.815	.072
	Extraversion	-4.1E-03	.099	-.004	-.042	.967
	Agreeableness	.404	.147	.259	2.742	.007
	Conscientiousness	.233	.163	.144	1.434	.154
	Neuroticism	-.114	.115	-.091	-.994	.322
	Openness	.136	.135	.097	1.010	.315

a. Dependent Variable: Fit-organization

Appendix 20-S2. Regression of fit-organization on traits

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.598[a]	.358	.326	.64832

a. Predictors: (Constant), Alternatives, Job investments, Skills transferability, Supervisor support, Role ambiguity, Organizational support

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28.603	6	4.767	11.342	.000[a]
	Residual	51.279	122	.420		
	Total	79.882	128			

a. Predictors: (Constant), Alternatives, Job investments, Skills transferability, Supervisor support, Role ambiguity, Organizational support

b. Dependent Variable: Fit-organization

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.615	.489		3.304	.001
	Role ambiguity	1.34E-02	.088	.016	.151	.880
	Organizational support	5.48E-02	.089	.076	.612	.542
	Supervisor support	.245	.078	.368	3.158	.002
	Job investments	.185	.076	.181	2.421	.017
	Skills transferability	.115	.086	.127	1.339	.183
	Alternatives	-.140	.082	-.134	-1.706	.091

a. Dependent Variable: Fit-organization

Appendix 21-S2. Regression of fit-organization on work perceptions

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.306[a]	.093	.086	.75525

a. Predictors: (Constant), Mating in organization

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.226	1	7.226	12.667	.001[a]
	Residual	70.160	123	.570		
	Total	77.385	124			

a. Predictors: (Constant), Mating in organization

b. Dependent Variable: Fit-organization

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.982	.140		21.328	.000
	Mating in organization	.182	.051	.306	3.559	.001

a. Dependent Variable: Fit-organization

Appendix 22-S2. Regression of fit-organization on the biologic factor

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.259[a]	.067	.044	.85077

a. Predictors: (Constant), Time in the organization (z), Strength of attachment, Age (z)

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.298	3	2.099	2.900	.038[a]
	Residual	87.580	121	.724		
	Total	93.878	124			

a. Predictors: (Constant), Time in the organization (z), Strength of attachment, Age (z)

b. Dependent Variable: Sacrifice-organization

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.878	.180		15.949	.000
	Strength of attachment	7.91E-02	.049	.157	1.624	.107
	Age (z)	.160	.098	.183	1.622	.107
	Time in the organization (z)	-.105	.091	-.121	-1.155	.250

a. Dependent Variable: Sacrifice-organization

Appendix 23-S2. Regression of sacrifice-organization on demographics

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.500[a]	.250	.193	.78155

a. Predictors: (Constant), Openness, Outward, Neuroticism, Compensation, Agreeableness, Challenge, Extraversion, Enjoyment, Conscientiousness

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.218	9	2.691	4.405	.000[a]
	Residual	72.688	119	.611		
	Total	96.906	128			

a. Predictors: (Constant), Openness, Outward, Neuroticism, Compensation, Agreeableness, Challenge, Extraversion, Enjoyment, Conscientiousness

b. Dependent Variable: Sacrifice-organization

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.722	1.271		1.355	.178
	Enjoyment	8.64E-03	.233	.004	.037	.970
	Challenge	.158	.162	.092	.978	.330
	Outward	.385	.198	.172	1.944	.054
	Compensation	-.204	.098	-.179	-2.071	.041
	Extraversion	5.25E-02	.114	.044	.462	.645
	Agreeableness	.360	.169	.210	2.127	.035
	Conscientiousness	.105	.187	.059	.558	.578
	Neuroticism	-.443	.132	-.320	-3.352	.001
	Openness	-6.0E-02	.155	-.039	-.387	.699

a. Dependent Variable: Sacrifice-organization

Appendix 24-S2. Regression of sacrifice-organization on traits

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.716[a]	.513	.489	.62205

a. Predictors: (Constant), Alternatives, Job investments, Skills transferability, Supervisor support, Role ambiguity, Organizational support

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	49.699	6	8.283	21.407	.000[a]
	Residual	47.207	122	.387		
	Total	96.906	128			

a. Predictors: (Constant), Alternatives, Job investments, Skills transferability, Supervisor support, Role ambiguity, Organizational support

b. Dependent Variable: Sacrifice-organization

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.227	.469		2.616	.010
	Role ambiguity	-8.5E-03	.085	-.010	-.101	.920
	Organizational support	4.59E-02	.086	.057	.534	.594
	Supervisor support	.358	.074	.488	4.811	.000
	Job investments	9.51E-02	.073	.085	1.297	.197
	Skills transferability	.193	.082	.194	2.346	.021
	Alternatives	-.200	.079	-.174	-2.540	.012

a. Dependent Variable: Sacrifice-organization

Appendix 25-S2. Regression of sacrifice-organization on work perceptions

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.222[a]	.049	.042	.85179

a. Predictors: (Constant), Mating in organization

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.635	1	4.635	6.389	.013[a]
	Residual	89.242	123	.726		
	Total	93.878	124			

a. Predictors: (Constant), Mating in organization

b. Dependent Variable: Sacrifice-organization

Coefficients [a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.796	.158		17.729	.000
	Mating in organization	.146	.058	.222	2.528	.013

a. Dependent Variable: Sacrifice-organization

Appendix 26-S2. Regression of sacrifice-organization on the biologic factor

Race

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	White	50	29.1	29.8	29.8
	Black	49	28.5	29.2	58.9
	Hispanic	64	37.2	38.1	97.0
	Asian	4	2.3	2.4	99.4
	Other (specify)	1	.6	.6	100.0
	Total	168	97.7	100.0	
Missing	System	4	2.3		
Total		172	100.0		

Univariate Analysis of Variance (sample one)

Between-Subjects Factors

		Value Label	N
Gender	1		63
	2		105
Race	1	White	50
	2	Black	49
	3	Hispanic	64
	4	Asian	4
	5	Other (specify)	1

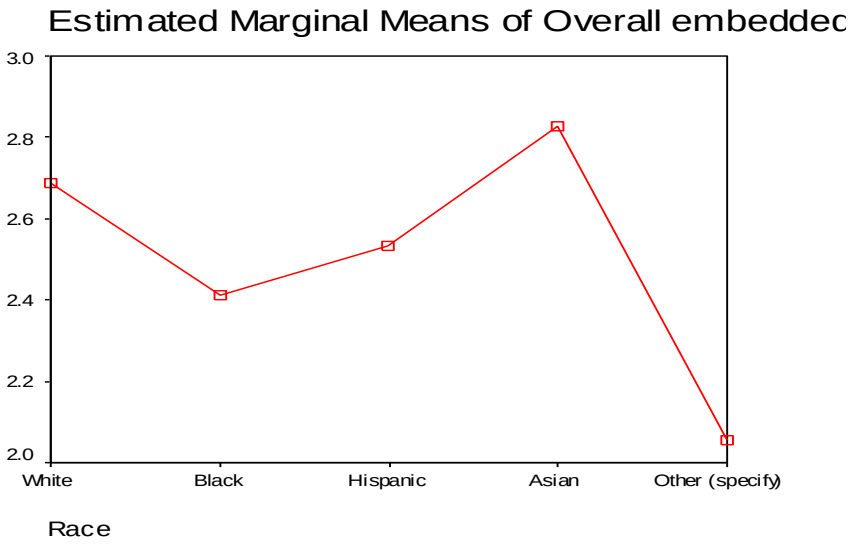
Tests of Between-Subjects Effects

Dependent Variable: Overall embeddedness

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2.916[a]	8	.364	1.691	.104
Intercept	171.784	1	171.784	797.172	.000
GENDER	.128	1	.128	.593	.442
RACE	2.252	4	.563	2.612	.037
GENDER * RACE	.312	3	.104	.483	.695
Error	34.263	159	.215		
Total	1127.112	168			
Corrected Total	37.179	167			

a. R Squared = .078 (Adjusted R Squared = .032)

Profile Plots (sample one)



Appendix 4A. Effects of race and gender on overall embeddedness (sample one)

Sample two

Race

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	White	91	72.8	72.8	72.8
	Black	11	8.8	8.8	81.6
	Hispanic	10	8.0	8.0	89.6
	Asian	12	9.6	9.6	99.2
	Other (specify)	1	.8	.8	100.0
	Total	125	100.0	100.0	

Univariate Analysis of Variance (sample two)

Between-Subjects Factors

		Value Label	N
Gender	1	Male	38
	2	Female	85
Race	1	White	89
	2	Black	11
	3	Hispanic	10
	4	Asian	12
	5	Other (specify)	1

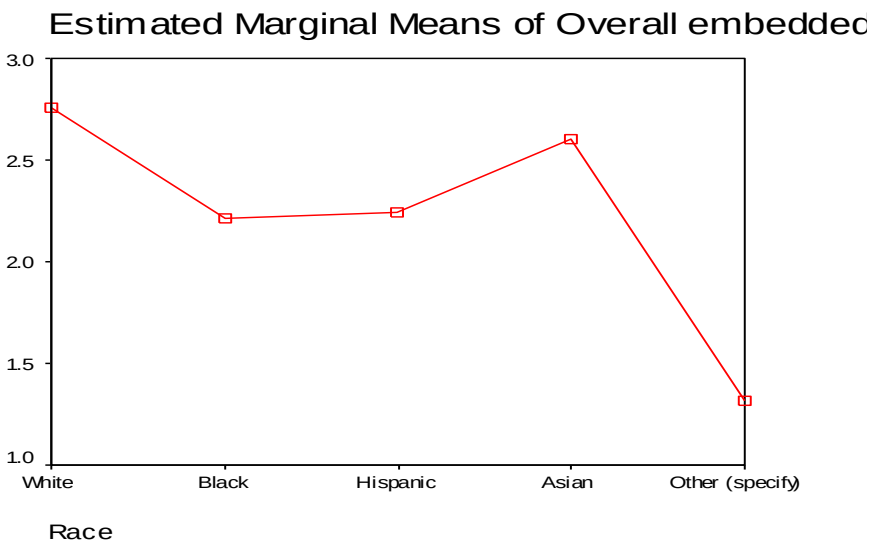
Tests of Between-Subjects Effects

Dependent Variable: Overall embeddedness

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	6.093[a]	7	.870	5.348	.000
Intercept	104.920	1	104.920	644.578	.000
GENDER	.568	1	.568	3.488	.064
RACE	5.391	4	1.348	8.280	.000
GENDER * RACE	.276	2	.138	.848	.431
Error	18.719	115	.163		
Total	897.793	123			
Corrected Total	24.812	122			

a. R Squared = .246 (Adjusted R Squared = .200)

Profile Plots



Appendix 4B. Effects of race and gender on overall embeddedness (sample two)