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The Effects of Organizational Embeddedness on Development of Social Capital and Human Capital

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This article examines the effects of organizational embeddedness on employees' activities to build social capital and human capital. To test a latent growth model, we collected data from 375 managers at multiple points over an 8-month period. We found that the more embedded employees perceived themselves to be at Time 1, the more likely they were to show declines in social capital development behaviors over time. In addition, declines in social capital development behavior were directly related to declines in human capital development behavior over time. These findings highlight the potential negative consequences embeddedness can have on employees' career development activity.

Keywords: embeddedness, social capital, human capital, career development, latent growth modeling

Over the past decade, organizational researchers have paid considerable attention to the construct of job embeddedness, that is, the extent to which individuals are enmeshed in their current jobs (Mitchell, Holtom, Lee, Sablynski, & Erez, 2001). This research has examined how perceptions of person–organization fit, links with colleagues and work activities, and potential sacrifices associated with changes in employment affect employee turnover. In their seminal work on this topic, Lee, Mitchell, Sablynski, Burton, and Holtom (2004) found that employee embeddedness has positive consequences for organizations. Because the rewards of embedded employees (e.g., job security and compensation) are well aligned to the financial success of their employers, embedded employees have particularly strong incentives to exert effort on their jobs and to be high performers.

At the same time, the effects of embeddedness on individuals may not be so uniformly positive. Certainly, highly embedded employees can reap the benefits associated with higher performance and longer tenure from their current employers. At the same time, high job embeddedness almost inevitably leads to less external job mobility (Halbesleben & Wheeler, 2008; Harman, Blum, Stefani, & Taho, 2009; Mallol, Holtom, & Lee, 2007; Mitchell et al., 2001), and previous research has repeatedly demonstrated the importance of external job mobility in accelerating career advancement (Brett & Stroh, 1997; Dreher & Cox, 2000; Lam & Dreher, 2004; Murrell, Frieze, & Olson, 1996).

The core goal in this paper, then, is to examine how job embeddedness may hurt, rather than benefit, an individual's career over time. For instance, job embeddedness may reduce future external job mobility because highly embedded employees have fewer opportunities to network with a diverse set of colleagues outside their own firms. Highly embedded employees may also have fewer opportunities to learn new job skills or to acquire human capital that is not firm specific. To date, there has been very little empirical research on how job embeddedness might negatively affect individuals' career development behaviors.

To that end, we first examine how job embeddedness affects employees' activities to build social capital. In most of the previous research on job embeddedness, involvement in social networks has been viewed primarily as a means through which employees become embedded in their current firms (Mitchell et al., 2001). What has been less frequently studied is the reciprocal relationship, namely, how job embeddedness affects employees' social networks and employees' investments in building additional social capital. Here we propose that a high level of job embeddedness can weaken individuals' subsequent motivation to build social capital, both at work and in the industry at large, as highly embedded employees may prefer maintaining existing social relationships over cultivating new ones. In essence, then, high embeddedness may actually create disincentives for employees to build further social capital.

We also examine the relationship between job embeddedness and human capital development behaviors (e.g., attending work-related training courses and engaging in job rotation). Here, too, we suggest that the relationship may be negative. Once employees feel highly embedded, they may view engaging in human capital development activities as less personally relevant, as they have little desire to move elsewhere. In the current career landscape, with individuals expected to actively manage their own careers (Arthur & Rousseau, 1996), this reduction in human capital development behavior may also hurt the individual's career advancement in the long run.

In testing the above propositions, this study took a latent growth modeling approach to examining the effects of embeddedness. With the exception of a few studies focusing on turnover as the dependent variable, most of the previous research on job embeddedness has been cross-sectional in nature (e.g., Sekiguchi, Burton, & Sablynski, 2008; Wijayanto & Kismono, 2004). Even longitudinal studies in this area of research have seldom examined the changes in the effects of job embeddedness over time (e.g., Hom

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et al., 2009). Consequently, we do not have much empirical evidence on whether the consequences of job embeddedness strengthen, weaken, or remain stable over time. By collecting data from 375 managers at multiple points over an 8-month period, we were able to address this gap in the literature as well.

Embeddedness, Social Capital, and Human Capital

Nature of Organizational Embeddedness

To explain why people do not change organizations even when opportunities exist, Mitchell et al. (2001) proposed a construct called *job embeddedness.* Mitchell et al. defined job embeddedness as the combination of three organizational forces that keep people in their current jobs. *Fit* is the extent to which an individual's abilities match organizational requirements and an individual's interests match organizational rewards. *Links* refers to the number of ties individuals have with other people and activities at work (e.g., friendship ties or task interdependence). *Sacrifice* is defined as what people would have to give up if they left their organizations (e.g., pensions or insurance benefits).

It is important to note three points about this definition of job embeddedness. First, Mitchell et al. (2001) demonstrated that job embeddedness has acceptable discriminant validity; for example, it is theoretically and empirically distinct from constructs such as job satisfaction and organizational commitment. Second, because embeddedness in a particular job essentially embeds an individual within his or her current organization, job embeddedness implies organizational embeddedness. Thus, we focused on the broader construct of organizational embeddedness rather than the specific construct of job embeddedness per se.

Third, Mitchell et al. (2001) suggest that the embeddedness of employees might also emerge from fit, links, and sacrifices associated with living in their particular communities (i.e., being enmeshed in the current community might make job changes outside the firm less likely). We excluded community embeddedness from the current study for two reasons. First, previous research has shown that organizational embeddedness and community embeddedness do not necessarily demonstrate similar patterns of relationships with work attitudes and behaviors (Harman et al., 2009; Mallol et al., 2007). These findings suggest that separate theories may be needed to explain how organizational embeddedness and community embeddedness affect decisions about job mobility and the appropriateness of various career strategies. Second, because we were examining changes in career strategies (i.e., changes in levels of investment in social capital and human capital) as our dependent variables, organizational embeddedness is much more germane to this research than community embeddedness is. Thus, like other embeddedness researchers who have focused on career-related dependent variables (Halbesleben & Wheeler, 2008; Hom et al., 2009; Sekiguchi et al., 2008), we excluded community embeddedness from the current study.

Previous Empirical Research on Organizational Embeddedness

Table 1 presents a summary (study goals, key findings, theoretical and practical implications) of the empirical research on organizational embeddedness since Mitchell et al.'s (2001) seminal work. Five major conclusions can be drawn about these existing studies.

First, 11 of the 13 empirical studies have examined turnover intentions or behaviors as the outcomes of interest. These studies found support for negative relationships of organizational embeddedness with turnover intentions and turnover behavior. Second, performance behaviors (e.g., core task performance and citizenship behaviors) were the next most frequently studied outcomes. These studies consistently found that higher organizational embeddedness was associated with stronger job performance (Halbesleben & Wheeler, 2008; Lee et al., 2004; Sekiguchi et al., 2008; Wijayanto & Kismono, 2004). Third, in addition to having direct effects on turnover and job performance, organizational embeddedness mediates (Allen, 2006; Hom et al., 2009) or moderates (Crossley, Bennett, Jex, & Burnfield, 2007; Lee et al., 2004; Sekiguchi et al., 2008) the effects of other variables on work outcomes. Fourth, organizational embeddedness has demonstrated predictive validity not only in U.S. samples but also in non-U.S. samples, including Hispanic countries, European countries, and Asian countries (Harman et al., 2009; Hom et al., 2009; Mallol et al., 2007; Tanova & Holtom, 2008). Finally, and most important, the authors of all but one of these studies (Sekiguchi et al., 2008) concluded that a high level of organizational embeddedness is beneficial for firms. Further, they advised managers to promote stronger organizational embeddedness by, for example, helping employees build links at work and engaging them in long-term projects. The current study extends our knowledge in several ways.

First, unlike existing studies that focused on either turnover or performance behaviors, the current study examined social capital and human capital development behaviors as the outcomes of interest. These behaviors have direct relevance for understanding employees' career motivation, career development, and career mobility over time.

Second, unlike most empirical studies, the current study explored the potential adverse effects of high employee embeddedness both for individuals and for organizations. Sekiguchi et al. (2008) have argued that poor leader–member exchange or low organization-based self-esteem may especially hurt the job performance of those employees who are highly embedded in their organizations. Here, we suggest that, over time, highly embedded employees may decrease the intensity and frequency of behaviors that are beneficial not only for themselves but also for their organizations.

Finally, the present study adopted a methodological approach that has not been used before in the embeddedness literature summarized in Table 1. To date, research on embeddedness has been cross-sectional in nature or has used longitudinal designs in which embeddedness at Time 1 is related to outcomes at Time 2. However, previous research has not examined how the effects of embeddedness on outcomes may change over time. The latent growth curve modeling approach used in this study thus represents a novel and more informative way to address this research gap, too.

Organizational Embeddedness and Changes in Social Capital Development Behaviors

Social capital refers to interpersonal relationships that create value for individual employees (Coleman, 1990). Similarly, social

Table 1
Previous Empirical Research on Organizational Embeddedness

Study	Objectives	Key findings	Theoretical implications	Practical implications
Mitchell et al. (2001)	• Using organizational embeddedness to predict voluntary turnover.	• Organizational embeddedness was negatively related to voluntary turnover above and beyond the effects of job satisfaction, organizational commitment, perceived job alternatives, and job search.	• Providing a new perspective on voluntary turnover that emphasizes nonaffective factors.	• Organizations should actively embed their employees by promoting fit, links, and sacrifice.
Lee et al. (2004)	• Examining the effects of organizational embeddedness on job performance, absenteeism, and voluntary turnover.	• Off-the-job embeddedness was negatively related to volitional absence and voluntary turnover. • On-the-job embeddedness was positively related to citizenship behavior and job performance. • Organizational embeddedness moderated the effects of absences, citizenship behaviors, and performance on turnover.	• In addition to affecting turnover decisions, organizational embeddedness predicts both performance behaviors and withdrawal tendencies. • On-the-job embeddedness and off-the-job embeddedness have different correlates.	• Increasing both on-the-job and off-the-job embeddedness creates positive (though different) outcomes for organizations.
Wijayanto & Kismono (2004)	• Examining the effect of organizational embeddedness on citizenship behaviors. • Examining the mediating role of sense of responsibility in that relationship.	• Organizational embeddedness was positively related to citizenship behaviors. • Sense of responsibility was not a significant mediator in the relationship.	• Organizational embeddedness predicts citizenship behaviors.	• To promote more citizenship behaviors, organizations should find ways to increase employees' levels of organizational embeddedness.
Cunningham et al. (2005)	• Refining Mitchell et al.'s scale for organizational embeddedness. • Proposing a global perception scale of organizational embeddedness.	• Both the modified and global scales positively predict intentions to stay above and beyond job satisfaction and organizational commitment.	• Like objective organizational embeddedness, employees' global perception of organizational embeddedness has predictive validity.	• To lower turnover rates, organizations should strengthen employees' actual and perceived organizational embeddedness.
Allen (2006)	• Examining the relationships among socialization, newcomer embeddedness, and turnover.	• Organizational embeddedness mediates the relationship between some socialization tactics and turnover.	• Organizational embeddedness represents a key explanation of why effective socialization tactics can lower newcomer turnover. • First study to examine organizational embeddedness as a mediator.	• Organizations should use socialization tactics to embed newcomers more extensively in order to lower newcomer exit rates.
Holtom & Inderrieden (2006)	• Examining the effect of organizational embeddedness on voluntary turnover in a diverse sample. • Examining the relationships among organizational embeddedness, shocks, and turnover.	• Organizational embeddedness was negatively related to voluntary turnover after controlling for job satisfaction. • Organizational embeddedness is higher among departing employees who experienced a shock than those who did not and highest among those who stayed.	• Integrating two new perspectives on voluntary turnover, organizational embeddedness and shocks.	• Organizations should be proactive about increasing organizational embeddedness among employees.
Mallol et al. (2007)	• Examining the effect of organizational embeddedness on turnover behaviors in the Hispanic population.	• Hispanics are more embedded in their communities than Caucasians are. • Organizational embeddedness was negatively related to voluntary turnover after controlling for job satisfaction and organizational commitment.	• Showing that organizational embeddedness is predictive of turnover behaviors in both majority and minority groups. • Highlighting some cross-cultural differences in organizational embeddedness.	• Promoting organizational embeddedness is particularly helpful in lowering Hispanics' turnover behaviors.

Table 1 (*continued*)

Study	Objectives	Key findings	Theoretical implications	Practical implications
Crossley et al. (2007)	• Developing a global measure of organizational embeddedness. • Integrating global perceptions of organizational embeddedness into a model of voluntary turnover.	• The global measure of organizational embeddedness has sound convergent and discriminant validity. • The global measure of organizational embeddedness was negatively related to turnover above and beyond the composite measure. • Organizational embeddedness and job satisfaction interacted to affect job search intentions.	• Demonstrating the importance of addressing both objective and subjective organizational embeddedness.	• Enhancing both objective and subjective organizational embeddedness among employees brings positive outcomes for firms.
Halbesleben & Wheeler (2008)	• Comparing the roles of work engagement and organizational embeddedness in predicting job performance and turnover intentions.	• Work engagement and organizational embeddedness are empirically distinct. • Organizational embeddedness predicts performance and turnover intentions after controlling for satisfaction, organizational commitment, and work engagement.	• Work engagement and organizational embeddedness are unique constructs, and each shared unique variance with performance measures and turnover intentions.	• Programs designed to strengthen level of work engagement or/and organizational embeddedness will lead to positive outcomes in terms of performance and retention.
Sekiguchi et al. (2008)	• Examining the interactive effects of organizational embeddedness, leader–member exchange (LMX), and organization-based self-esteem (OBSE) on job performance.	• Organizational embeddedness moderated the positive relationships of LMX and OBSE with performance behaviors, such that the relationships were stronger when organizational embeddedness was higher.	• Organizational embeddedness affected job performance both directly and indirectly as a moderator. • Organizational embeddedness can potentially hurt job performance when LMX is weak or/and OBSE is low.	• Increasing organizational embeddedness is important not only for retaining employees but also for employee performance. • Promoting high employee embeddedness may not always have positive results for organizations.
Tanova & Holtom (2008)	• Examining organizational embeddedness as a predictor of turnover behaviors in four European countries.	• Organizational embeddedness was negatively related to turnover after controlling for labor market conditions, job satisfaction, job search behavior, and absenteeism.	• Organizational embeddedness predicts turnover behaviors in the United States and Europe.	• To reduce turnover rate, organizations should increase employees' levels of organizational embeddedness.
Harman et al. (2009)	• Examining the effect of organizational embeddedness on turnover intentions in Albania.	• Organizational embeddedness was negatively related to turnover intentions over and above that accounted for by job search behaviors and perceived job alternatives. • Organizational embeddedness was not related to turnover intentions after controlling for job satisfaction and organizational commitment.	• Cross-cultural differences exist in the predictive power of organizational embeddedness.	Not available.
Hom et al. (2009)	• Examining the relationships among employee–organization relationships, social exchange, and organizational embeddedness.	• "Mutual investment" employment relationships enhance both quality of social exchange and organizational embeddedness, which in turn increase organizational commitment and lower turnover intentions. • "Overinvestment" employment relationships promote higher quality of social exchange and organizational commitment and lower turnover intentions.	• Clarifying the processes by which the various types of employee–organization relationships affect work outcomes. • Demonstrating that organizational embeddedness is an important mediator in the development of employee–organization relationships. • Extending embeddedness research to the Chinese population.	• "Overinvestment" and "mutual investment" are more effective approaches for embedding employees in their jobs than are "underinvestment" and "quasi-spot contracts."

capital development behaviors refer to activities of individuals aimed at developing relationships with others who have the potential to assist them in their careers, such as seeking high-visibility assignments, actively participating in social functions, and developing friendships with senior managers (Forret & Dougherty, 2004).

Two types of social capital development behaviors are particularly relevant in the current study. *Internal* social capital development behaviors refers to building social ties within an organization (e.g., supervisors, senior managers) that might advance an individual's career success. *External* social capital development behaviors, on the other hand, refers to building social ties with people outside the organization (e.g., professional colleagues) that facilitate career advancement.

From an organizational perspective, greater social capital can enhance the functioning of a firm. Within the firm, high levels of social capital can increase group cohesion and communication efficiency across work units (Bolino, Turnley, & Bloodgood, 2002). Even employees' networks with people outside the firm can help an organization be more effective, because these external ties help firms identify new clients and keep relationships with current customers and suppliers operating on an even keel (Acquaah, 2006).

From the individual perspective, developing social capital is one of the most effective career management strategies (Seibert, Kraimer, & Liden, 2001; Wayne, Liden, Kraimer, & Graf, 1999). Previous research has shown that social ties are instrumental for advancing one's career both within and outside the firm, especially in terms of finding out about new job opportunities and in obtaining new positions (Granovetter, 1973; Marsden & Hurlbert, 1988; Zippay, 2001).

As noted earlier, Mitchell et al. (2001) viewed social links as a key contributor to organizational embeddedness. Mitchell et al. suggested that, as individuals accumulate more social ties at work, they become more embedded, because those links create greater felt obligations to remain with their current employers. In this study, we were interested in the *reciprocal* relationship. That is, here we focus on the effects of organizational embeddedness on employees' activities to build social capital.

We argue in particular that, once employees perceive that they are highly embedded in an organization, they gradually lose some interest in developing additional social capital. Certainly, it can be argued that highly embedded workers do need to build new ties as they move up the organizational hierarchy. Here, though, we suggest that the intensity of that networking activity will not remain strong over time. Fewer, if any, opportunities for further internal advancement are available, and many of the links that would be instrumental to further internal moves would have been developed previously.

Moreover, in addition to influencing the availability of networking opportunities, a high degree of organizational embeddedness might weaken individuals' motivation to engage in additional social capital accumulation. Employees' time and energy are limited, and individuals make calculations as to how to best use that time and energy (Macan, 1994). As instrumental as social capital development behavior might be (Zanzi, Arthur, & Shamir, 1991), it often takes considerable effort (Ferris et al., 2007), and immersing oneself in workplace politics and networking can induce stress and fatigue (Cropanzano, Howes, Grandey, & Toth, 1997). For instance, a worker who wants to develop a strong relationship with a senior manager may need not only to spend more time socializing with that manager at work but to become more involved in activities (e.g., charities and sports) that are important to the manager outside of work. An employee who wants to build more links with colleagues in the same profession will also have to attend trade shows, career fairs, and professional meetings more frequently.

Researchers have found that managers at all levels of organizations invest substantial time and effort developing and maintaining strong relationships with subordinates, work groups in other departments, external suppliers, and company clients (Kraut, Pedigo, McKenna, & Dunnette, 2005). Therefore, after a manager has established a wide network of social ties, he or she may be more motivated to maintain existing relationships rather than spend more time cultivating new ones. For example, Chan and Schmitt (2000) found that, as time on the job increased, the extent to which employees proactively built relationships with coworkers decreased linearly. Similarly, Forret and Dougherty (2004) observed that years of work experience were significantly and negatively related to socializing behavior at work.

In addition to the conservation of energy argument above, another rationale for our thesis is that organizational embeddedness indicates a strong fit between an employee's career plans and the current job. That fit, in turn, lessens the employee's desires for further mobility opportunities. As Ferris et al. (2007) noted, social capital development is goal directed. Given that many employees view high embeddedness as a signal of job security, employment stability, and professional success (Ng & Feldman, 2007), highly embedded employees may decrease their social capital development behaviors over time because several of their important career goals have already been attained. Holtom and Inderrieden (2006) have argued that, when a high level of fit is achieved, individuals are less likely to look for jobs elsewhere or accept other job offers. They surmised that this relationship occurs because highly embedded employees perceive that these alternate jobs, in the aggregate, promise only average fit. In short, highly embedded employees may no longer see networking behavior as highly instrumental to their careers, as they have little desire to advance elsewhere.

For these reasons, then, we expected that perceptions of organizational embeddedness at Time 1 would be associated with greater declines in the social capital development behaviors of individuals (both within and outside their firms). As long as embedded employees continue to work, they will still build some social capital. However, our contention is that the intensity of social capital development behavior will decrease over time.

> *Hypothesis 1:* The greater the perceptions of organizational embeddedness at Time 1, the greater the decline in social capital development behaviors will be over time.

Organizational Embeddedness and Changes in Human Capital Development Behaviors

Human capital consists of the skills, knowledge, and experience that employees (and potential employees) acquire to enhance their productivity at work and success in the labor market (Becker, 1964). At the individual level of analysis, acquiring more human capital is important because levels of human capital are frequently

used as criteria for selection into firms, promotions within firms, and advancement into and through the ranks of management (Ng, Eby, Sorensen, & Feldman, 2005). Organizations benefit from greater human capital, too. When employees become more knowledgeable, skillful, and experienced at their jobs, both the quantity and the quality of their work performance are likely to increase as well (Benson, Finegold, & Mohrman, 2004; Zippay, 2001).

Birdi, Allan, and Warr (1997) reviewed the literature on how employees acquire job-related knowledge, skills, and experience and identified four major kinds of human capital development activities. First, individuals may attend training courses at work, through which they learn skills and knowledge needed to more effectively perform their current jobs. The second group consists of work-based developmental activities (e.g., job rotation and cross-functional project work) that provide employees with a wider variety of on-the-job experiences and make them more valuable to the firm as a whole. The third category consists of learning activities individuals engage in outside of work to build up their general (nonorganization-specific) human capital. Becoming fluent in a second language and becoming a polished public speaker are examples of the kinds of activities that might broadly enhance market value in this regard. The fourth category involves career planning activities (e.g., reviewing current career goals, getting feedback about career potential, charting future job changes) that prepare individuals for future movement within or outside the firm. Even though career planning does not directly enhance individuals' job or occupational knowledge, it does help strengthen the abilities of employees to understand their own strengths, weaknesses, and identities. Such abilities were labeled as "know-why competence" by DeFillippi and Arthur (1994).

Thus, some types of human capital investment are relevant to specific job contexts, and other types of human capital investment are more generic in nature (Sturman, Walsh, & Cheramie, 2008). However, both types of human capital investments enhance employees' marketability in the external labor market (Gowan & Lepak, 2007). Increased job-specific human capital (e.g., licenses, certifications, a broader understanding of workplace operations) improves individuals' marketability across organizations within the same industry (Parent, 2000), and increased generic human capital (e.g., language skills) improves individuals' marketability across industries. Therefore, investments in human capital are often made with an eye to making oneself more marketable outside the firm.

Consequently, when employees have no intentions of leaving their current employers, they are likely to gradually decrease the intensity of their investments in both general and job-specific human capital. As was the case with the social capital investment activities we discussed above, human capital investment activities are costly to employees. For instance, it often takes at least one year, and sometimes a few years, to acquire additional educational degrees and professional qualifications. Similarly, participation in cross-functional projects may require longer work hours and create more stress as employees try to juggle the multiple demands and expectations of colleagues from different functional backgrounds. Because highly embedded employees have fewer intentions to leave (Halbesleben & Wheeler, 2008; Harman et al., 2009; Mallol et al., 2007; Mitchell et al., 2001), they also have fewer incentives to keep on accumulating more human capital, especially when those human capital investments can be costly to make.

Thus, we suggest that as employees feel more embedded, they may start seeing fewer benefits associated with adding more human capital and start decelerating their investments in activities geared toward that end. Although highly embedded employees may indeed continue to invest in their human capital as long as they continue to work, we expected the intensity of that human capital development behavior would decrease over time.

> *Hypothesis 2:* The greater the perceptions of organizational embeddedness at Time 1, the greater the decline in human capital development behaviors will be over time.

Changes in Social and Human Capital Development Behaviors

In Hypothesis 3, we predict that declines in social capital development behaviors will be directly related to declines in human capital development behaviors. Previous research has seldom studied these two prominent career strategies together. Addressing the relationship between social capital development behaviors and human capital development behaviors from a change perspective is particularly important in embeddedness research because, as we argue above, both human and social capital development activities are important time-variant correlates of organizational embeddedness. At the same time, how changes in the use of one strategy may elicit changes in the use of the other strategy is still unclear in the literature.

First, the initial status of social capital development behaviors and of human capital development behaviors is likely to be closely and positively related. Because of limited resources, organizations do not offer all employees human capital development opportunities and seldom offer all employees the same amount of human capital development opportunities. One key determinant of whether employees are likely to receive these opportunities is the nature of their social ties and networks, as individuals who are socially skillful and who actively develop social relationships with members of the organizational elite are likely to be offered greater amounts of valuable career assistance (Ferris et al., 2007). For instance, early research on sponsored mobility suggests that senior managers pay more attention to junior colleagues with high visibility and provide them with more opportunities to advance their careers (Rosenbaum, 1979; Sonnenfeld, Peiperl, & Kotter, 1988; Turner, 1960).

In the present study, we extended these arguments using a change perspective. When employees engage in less social networking over time, the opportunities that they discover or receive for career development may decrease gradually, too. For instance, as a result of decreasing network size over time, employees may become decreasingly knowledgeable about which human capital development opportunities are available and decreasingly visible to senior managers as worthy recipients of further human capital investments (Wu, Foo, & Turban, 2008). Furthermore, fewer and fewer behaviors directed at building external social capital may also make individuals decreasingly attentive or sensitive to the importance of building transferable skills. Finally, to the extent that decreasing social capital development behaviors reflects growing satisfaction with current career plans and career progress, that positive satisfaction is likely to gradually reduce employees'

incentives to acquire additional human capital as well. Thus, we predicted

> *Hypothesis 3:* The greater the decline in social capital development behaviors, the greater the decline in human capital development behaviors will be over time.

Method

Research Design

To ensure variance in our sample on key variables of interest, we hired Zoomerang.com to collect survey data. This firm has recruited millions of respondents for research projects in the United States, particularly for large-scale online surveys. We constructed the surveys, which the research company then distributed (online) to participants who were employed at the time of the survey. An invitation letter stating the purpose of the study was sent along with the survey. Participation was voluntary, and potential participants were promised small monetary incentives by the research organization in return for their participation.

We requested that the surveys be sent to managers in particular because they are a segment of the workforce for which both the embedding forces and the norms about building social and human capital investments are strong. Within the pool of managerial employees in the research company's database, participants were chosen randomly.

Data were collected from respondents at three points in time over an 8-month period. The research company sent online surveys to those respondents who participated in the first survey 4 months after the initial data collection. Eight months after the initial data collection, the research company sent the third online survey to individuals who had completed the second survey. Each wave of the survey was completed within a 2-week span.

We adopted a 4-month lag between survey collections over an 8-month period because (a) changes in social and human capital development behaviors should be visible within this time frame and (b) previous studies that have used latent growth model analyses to study employee behaviors have adopted similar time frames (Chan & Schmitt, 2000; Jokisaari & Nurmi, 2009; Lance, Vandenberg, & Self, 2000). In these previous studies, time intervals as short as 1 month and as long as 6 months have been used, and these studies suggest that employees do change their behaviors within the 4-month time frame we utilized. And, as we discuss in more detail below, the equally spaced intervals of data collection impact how change is parameterized in latent growth model analyses.

Research Sample

The research company estimated the response rate on the initial survey (Time 1) would be 20%–30%. In order to reach our target sample size, which was approximately 500, the research organization sent out 2,500 surveys to managerial participants. At Time 1, 576 usable surveys were returned, representing a response rate of 23%. Four months later, the Time 2 survey was sent to those 576 managerial respondents who participated in the first survey. We received 450 usable surveys, representing a response rate of 78% at Time 2. Finally, at the 8-month mark, the Time 3 survey was sent to the 450 respondents who participated in both the first and second surveys. We received 395 usable surveys, representing a response rate of 88% at Time 3.

According to the research company, the response rates in this study across the three waves of data collection were within the expected range for a job-related survey like ours. We compared our response rates with those of other studies that recruited online respondents through Zommerang.com. These studies reported response rates ranging from 8% to 28% (Autry, Skinner, & Lamb, 2008). Thus, it appears that our initial Time 1 survey has an acceptable response rate (23%). In addition, our Time 2 and Time 3 surveys have response rates (78% and 88%) higher than what has typically been observed in meta-analyses of response rates of electronic surveys (Cook, Heath, & Thompson, 2000; Shih & Fan, 2008), which have hovered around 34%.

We compared those who participated in all three surveys with those who dropped out without completing all three surveys. There were no significant differences on key psychological and demographic variables. Twenty individuals had changed jobs during this 8-month span. Because these individuals would have had to respond to their surveys using two different organizations as their employers, these individuals were dropped from further analyses. The effective sample size for the current study, therefore, was 375.

The average age of the participants in the study was 42.5 years ($SD = 11.82$). Fifty-seven percent of respondents were female. In terms of marital status, 25% were single, 59% were married, and 16% were divorced or widowed. Average organizational tenure was 9.6 years; average job tenure was 7.7 years. Eighty-four percent of the sample had at least some college education. A wide variety of industries were sampled, but all respondents were managers. According to respondents' self-identification, 20% were first-line supervisors, 55% were middle-level managers, and 25% were senior managers.

Measures

Except where noted, survey items were measured on 5-point Likert-format scales. Response scales ranged from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). The means, standard deviations, and correlations among these variables are presented in Table 2.

Perceptions of organizational embeddedness. Embeddedness has been operationalized in two different ways. Mitchell et al. (2001) proposed that embeddedness be operationalized as an equally weighted composite of its three facets (fit, links, and sacrifice). In contrast, Crossley et al. (2007) questioned the assumption that the whole of embeddedness is equal to the sum of its parts. They argued instead that embeddedness evokes complex mental processes that lead to the formation of individual-specific, gestalt impressions of personal attachment. As such, Crossley et al. suggested, it is more appropriate to assess embeddedness with global questions that allow individuals to weigh various facets of embeddedness differently. Crossley et al. validated such a measure of global perceptions of organizational embeddedness, and we utilize that seven-item measure in the current study. Sample items are "I feel tied to this organization" and "It would be difficult for me to leave this organization." In the current sample, the coefficient alpha for this scale was .94.

Social capital development behaviors. Both internal and external social capital development behaviors were measured in the

Table 2
Means, Standard Deviations, and Correlations Between Study Variables

Variable	1	2	3	4	5	6	7	8	9	10
1. Organizational embeddedness (T1)	(.94)									
2. Internal social capital development behavior (T1)	.42**	(.91)								
3. Internal social capital development behavior (T2)	.30**	.68**	(.91)							
4. Internal social capital development behavior (T3)	.28**	.67**	.65**	(.91)						
5. External social capital development behavior (T1)	.32**	.73**	.57**	.57**	(.95)					
6. External social capital development behavior (T2)	.26**	.59**	.74**	.58**	.66**	(.95)				
7. External social capital development behavior (T3)	.25**	.58**	.58**	.72**	.67**	.68**	(.96)			
8. Human capital development behavior (T1)	.09	.38**	.36**	.35**	.39**	.35**	.33**	(.89)		
9. Human capital development behavior (T2)	.01	.33**	.43**	.35**	.31**	.42**	.31**	.68**	(.89)	
10. Human capital development behavior (T3)	.10	.28**	.36**	.37**	.29**	.34**	.37**	.62**	.69**	(.88)
M	3.46	3.65	3.57	3.52	3.57	3.47	3.42	1.67	1.62	1.58
SD	1.09	0.81	0.86	0.87	0.93	0.97	1.05	0.43	0.42	0.41

Note. Reliability estimates are provided in parentheses. $N = 375$. T1 = Time 1; T2 = Time 2; T3 = Time 3.
** $p < .01$.

study. Internal social capital development behaviors were measured at three points in time with six items from the Political Skill Inventory (Ferris et al., 2005). At all three survey administrations, the coefficient alpha for this scale was .91. These items include the following:

1. I spend a lot of time and effort at work networking with others.
2. I am good at building relationships with influential people at work.
3. At work, I know a lot of important people and am well connected.
4. I spend a lot of time at work developing connections with others.
5. I am good at using my connections and network to make things happen at work.
6. I have developed a large network of colleagues and associates at work whom I can call on for support when I really need to get things done.

Because there are no existing scales available for measuring external social capital development behaviors, we adapted the six-item scale of internal social capital development behaviors and reworded it so that the focus of the measure was on occupation rather than the workplace. The coefficient alpha for this scale was .95 at Time 1, .95 at Time 2, and .96 at Time 3. These items include the following:

1. I spend a lot of time and effort networking with others in my occupation.
2. I am good at building relationships with influential people in my occupation.
3. In my occupation, I know a lot of important people and am well connected.
4. I spend a lot of time developing connections with others in my occupation.
5. I am good at using my connections and network in this occupation to make things happen for my career.
6. I have developed a large network of colleagues and associates in my occupation whom I can call on for support when I really need to get things done.

Four extra steps were taken to ensure the discriminant validity of the external social capital development behavior scale. First, exploratory factor analyses of Time 1 data with oblique rotation indicated that the 12 items loaded on two distinctive factors (variance extracted = 75%), with the six items of internal social capital development behaviors loaded on one factor and the six items of external social capital development behaviors loaded on the other factor.

Second, when we used the Time 1 measures of internal and external social capital development behaviors to predict the Time 3 measure of human capital development behaviors (its operationalization is discussed below), we found that external social capital development behaviors explained a significant amount of variance (2%) above and beyond the effects of demographic variables (5%) and internal social capital development behaviors (7%). Thus, the scale for external social capital development behaviors has predictive validity.

Third, we administered additional surveys to 145 undergraduate students majoring in business administration and to 40 part-time MBA students. On the surveys, we provided definitions of both internal and external social capital development behaviors. Next, we listed the 12 items in random order and asked participants to rate the extent to which each item appropriately measures the two constructs. Then, following Hinkin and Tracey (1999), we assessed content validity by comparing each item's mean rating on the two constructs with *t* tests. Undergraduate and postgraduate students were appropriate for this task, as they had the intellectual capacity requisite to read and categorize task statements according to predefined categories (Hinkin & Tracey, 1999). We found that each of the 12 items had a significantly higher mean rating on its

a priori construct than on the other construct ($p < .01$). These results provide supporting evidence that participants were able to distinguish external social capital development items from internal social capital development items.

Fourth, we administered surveys to 245 managers recruited specifically for validating the external networking behavior scale. On the surveys, we listed in random order the 12 items of internal and external social capital behaviors. As noted before, their wordings are similar except the internal networking items use "at work," whereas the external networking items use "the occupation." Then, we asked participants to rate the likelihood they would direct each networking behavior at people outside of their organizations. The response options ranged from 1 (*definitely not people outside my organization*) to 5 (*definitely people outside my organization*). We found that the six-item external networking behavior scale had a significantly higher mean value than the six-item internal networking behavior scale ($p < .01$). This finding suggests that respondents were more likely to direct their networking behaviors at people outside their organizations when they intended to network with people in their occupations (vs. when they intended to network with people at work).

Human capital development behaviors. Human capital development behaviors were also measured at three points in time. Here we utilized Birdi et al.'s (1997) 13-item scale because it captures a wide range of human capital development activities. An exploratory factor analysis indicated that these 13 activities loaded on the same factor.

Respondents were asked how often they had participated in 13 human capital investment activities during the previous 4 months. Sample items are "How often did you attend a training course (e.g., designed to improve performance, such as training for new technology or new products) in the past 4 months?" and "How often have you visited suppliers, customers, or dealers to gain a wider understanding of the business in the last 4 months?" Following Blau et al. (2008), we utilized a 3-point response scale: 1 = *never*, 2 = *sometimes (1–3 times)*, and 3 = *frequently (4 or more times)*. The coefficient alpha for this scale was .89 at Time 1, .89 at Time 2, and .88 at Time 3.

Confirmatory Factor Analyses (CFA)

Before proceeding with any model tests, we conducted CFA to determine whether the measurement models have acceptable model fit. Following Anderson and Gerbing's (1988) suggestion that measurement models be examined before the constructs of a structural model are tested, we specified all the latent variables in a CFA and evaluated the model fit. These variables include perceptions of organizational embeddedness (Time 1), internal social capital development behaviors (Times 1, 2, and 3), external social capital development behaviors (Times 1, 2, and 3), and human capital development behaviors (Times 1, 2, and 3).

These variables were specified as latent constructs represented by their respective measurement items in the CFA. That is, each measurement item was allowed to load only on the construct that it was intended to represent. Then, each measurement model was identified by setting the construct variance equal to the value of one (Anderson & Gerbing, 1988). The intercorrelations among all the constructs were allowed to be freely estimated. Finally, as in other similar studies (Lance et al., 2000), the error variances of those measurement items that were repeatedly used across time points were allowed to be correlated.

The fit of the model was evaluated with various fit indices recommended by Hu and Bentler (1998): Tucker–Lewis index (TLI), Bollen's fit index (BL89; Bollen, 1989), the comparative fit index (CFI), the root mean square error of approximation (RMSEA), and the standardized root-mean-square residual (SRMR). Hu and Bentler (1998) recommended these fit indices in maximum likelihood-based applications of covariance structure modeling because they (especially SRMR) are sensitive to model misspecification. For a model to fit the data well, Hu and Bentler (1999) suggested, TLI, BL89, and CFI should be close to .95; RMSEA should be close to .06; and SRMR should be close to .08.

The first row in Table 3 presents the values of the fit indices associated with our measurement models. As these data suggest, the overall measurement model (which contains all the scales measured in this study) has acceptable fit. As expected, all the factor loadings were statistically significant.

In terms of interrelationships among the constructs of interest, perceptions of organizational embeddedness were significantly and positively related to internal social capital development behaviors at Times 1, 2, and 3 (.42, .30, .28, respectively) and external social capital development behaviors (.32, .26, .25, respectively). However, organizational embeddedness was not significantly related to human capital development behaviors across the three time points.

In addition, social capital development and human capital development behaviors were positively correlated. Measures of human capital development behaviors were significantly and positively related to measures of internal social capital development behaviors (average correlation = .36) and to measures of external

Table 3
Fit Indices

Model	χ^2	*df*	TLI	BL89	CFI	RMSEA	SRMR
The overall measurement model	5,060.76	3039	.98	.98	.98	.05	.06
The proposed model	6,934.75	3186	.96	.96	.96	.07	.08
Alternative Model 1	7,320.61	3190	.96	.96	.96	.08	.15
Alternative Model 2	7,131.88	3186	.96	.96	.96	.08	.09
Alternative Model 3	6,928.78	3184	.96	.96	.96	.07	.09

Note. χ^2 = chi-square value; *df* = degree of freedom; TLI = Tucker–Lewis index; BL89 = Bollen's fit index; CFI = comparative fit index; RMSEA = root mean square error of approximation; SRMR = standardized root-mean-square residual.

social capital development behaviors (average correlation = .35) across the three time points.

The average correlation between internal and external social capital development behaviors across the three time points was .63. When we constrained each pairwise factor correlation between internal and external social capital development behaviors to a value of 1.0, we found that, in each case, constraining the factor correlations significantly worsened model fit ($p < .01$). This suggests that internal and external social capital development behaviors were empirically distinct from each other.

Finally, we examined whether these scales demonstrated measurement invariance longitudinally (Chan, 1998; Vandenberg & Lance, 2000). We found, on the basis of chi-square difference tests, that only one item in the external social capital development behavior scale and only one item in the human capital development behavior scale had significantly different factor loadings at the three points in time. However, for both theoretical and practical reasons, this partial scale invariance should not affect the interpretation of our results. Theoretically speaking, it is overly stringent to expect full-scale invariance for all study variables in longitudinal research when the underlying assumption in undertaking such research is that there will be some changes in variables of interest over time (Pentz & Chou, 1994). Methodologically speaking, Lance et al. (2000) proposed a reasonable remedy for the lack of full scale invariance, namely, allowing variant factor loadings to be freely estimated in the testing model while the invariant items are set to have equal factor loadings. The parameter estimates in the subsequent latent growth modeling analyses would control for the lack of full metric invariance at the first-order-factor level, which in turn defines true initial status and change at the second-order-factor level.

Results

Latent Growth Modeling (LGM)

LGM was used to test the model. LGM is an extension of structural equation modeling; it assesses changes in levels of variables and examines how these changes are related to other constructs in a nomological network. When there are three measurement waves (as in the current study), LGM allows for the assessment of linear change. As noted earlier, we collected data at equal time intervals so that there would be equivalent periods of time between Time 1 and Time 2 and between Time 2 and Time 3.

Bollen and Curran (2006) distinguished between two types of latent growth models. "Unconditional" latent growth models do not include covariates that affect the trajectory of change. Using these models, researchers are able to examine the mean levels of variables measured at different times and to determine if there is sufficient variance in the vector of change to be accounted for by other constructs in the nomological network. In contrast, "conditional" latent growth models include covariates that may affect the trajectory of change. Using these models, researchers are able to examine the strength of the relationships of the covariates with the latent intercept factor (representing the average initial status of individuals on a measure) and the latent slope factor (representing the rate of change over time). The loadings from the intercept factor to each of the three repeated measures are fixed to 1.0, so that the intercept factor equally influences all repeated measures. As prescribed by Duncan, Duncan, and Strycker (2006), the loadings from the slope factor to each of the three repeated measures are fixed to values of 0, 1, or 2 for positive linear changes (or 0, −1, −2 for negative linear changes, as in the current study). The first loading is specified to 0 so that the intercept factor will reflect the mean values of measures at Time 1 (Bollen & Curran, 2006).

In this study, we adopted a second-order-factor LGM approach. That is, perceptions of organizational embeddedness measured at Time 1 were specified to be associated with both the initial status factor and the slope factor of internal social capital development behaviors, external social capital development behaviors, and human capital development behaviors. In addition, the initial status and the slope factor of both internal and external social capital development behaviors were specified to be related to the initial status and the slope factor of human capital development behaviors. Because internal and external social capital development behaviors are likely to be correlated, we allowed the residual variance of these two latent constructs to be correlated as well.

Next, each first-order latent factor was represented by its respective measurement items. The error variances of those measurement items that were repeatedly used across time points were allowed to be correlated. Partial scale invariance was specified because, as noted earlier, two items were found to have significantly different factor loadings across the three time points. Readers are referred to several additional studies for more technical details associated with the use of LGM, including Bentein, Vandenberg, Vandenberghe, and Stinglhamber (2005); Bollen and Curran (2006); Chan (1998); Chan, Ramey, Ramey, and Schmitt (2000); Duncan et al. (2006), and Lance et al. (2000).

Finally, it should be noted that we included age as a control variable in our model testing. That is, age was added to the model and was specified to be related to both the initial status and slope factors of (a) internal social capital development behaviors, (b) external social capital development behaviors, and (c) human capital development behaviors. The rationale for including age as a control variable was that the process of aging itself often leads to declines in both social and human capital development behaviors (Simpson, Greller, & Stroh, 2002), and therefore age could potentially confound our tests of the hypothesized effects of organizational embeddedness.

Unconditional LGM

In the first step of LGM, we examined the mean levels of social capital development behaviors and human capital development behaviors over time to determine if there was sufficient variance in the vector of change to be accounted for by perceptions of organizational embeddedness measured at Time 1. The parameter estimates in the unconditional model are given in Table 4. In the case of internal social capital development behaviors, the estimated mean intercept is 3.54 ($p < .01$) and the estimated mean slope is −.07 ($p < .01$). In the case of external social capital development behaviors, the estimated mean intercept is 3.44 ($p < .01$) and the estimated mean slope is −.07 ($p < .01$). In the case of human capital development behaviors, the estimated mean intercept is 1.80 ($p < .01$) and the estimated mean slope is −.07 ($p < .01$). Thus, there is a pattern of significant negative change

Table 4
Key Parameter Estimates

Parameter	Unconditional model	Conditional model
Fixed effects		
Mean of intercept factor		
ISCDB	3.54**	
ESCDB	3.44**	
HCDB	1.80**	
Mean of slope (decline) factor		
ISCDB	−.07*	
ESCDB	−.07*	
HCDB	−.07*	
The effect of OE at Time 1 on intercept factors		
ISCDB		.41**
ESCDB		.30**
HCDB		−.14*
The effect of OE at Time 1 on slope (decline) factors		
ISCDB		.14*
ESCDB		NS
HCDB		NS
The effect of ISCDB and ESCDB on HCDB		
Intercept of ISCDB → intercept of HCDB		.22*
Intercept of ESCDB → intercept of HCDB		.25*
Decline in ISCDB → decline in HCDB		.21*
Decline in ESCDB → decline in HCDB		.12*
Variance components		
Variance of intercept factor		
ISCDB	0.53**	0.45**
ESCDB	0.79**	0.72**
HCDB	0.10**	0.09**
Variance of slope (decline) factor		
ISCDB	0.08**	0.08**
ESCDB	0.14**	0.14**
HCDB	0.02**	0.02**
Correlation between variance of intercept factor and variance of slope (decline) factor		
ISCDB	.18**	.17**
ESCDB	.16**	.17**
HCDB	.43**	.41**
Correlation between ISCDB and ESCDB		
Variance of intercept factor of ISCDB ↔ Variance of intercept factor of ESCDB		.67**
Variance of slope factor of ISCDB ↔ Variance of slope factor of ESCDB		.52**

Note. A single arrow represents structural path, whereas a double arrow represents correlation. ISCDB = internal social capital development behavior; ESCDB = external social capital development behavior; HCDB = human capital development behavior; OE = organizational embeddedness; NS = not significant.
* $p < .05$. ** $p < .01$.

over time for both social capital development behaviors and human capital development behaviors.

In addition, in this unconditional model, we found that the intercept factor variances for all three behaviors (internal social capital development behaviors, external social capital development behaviors, and human capital development behaviors) were statistically significant (see Table 4). This indicated that there were significant individual differences in these three variables at Time 1. Similarly, the slope (decline) factor variances for all three behaviors were statistically significant; this revealed that there were individual differences in the decline rate in these three behaviors, too. Finally, the factor covariance between the intercept and slope (decline) factors for all three behavioral variables was significantly and positively related. This finding suggests that respondents who had higher mean levels of internal social capital development behaviors, external social capital development behaviors, and/or human capital development behaviors at Time 1 experienced greater declines in these behaviors over time.

Conditional LGM

The fit indices shown in the second row in Table 3 indicate that the proposed model has acceptable model fit. TLI, BL89, and CFI were all .96, thereby meeting the "close to .95" criterion proposed by Hu and Bentler (1999). The RMSEA index was .07, meeting guidance that this index should be close to .06 in order to conclude that there is good model fit. Finally, the SRMR was .08, which also met the "close to .08" criterion suggested by Hu and Bentler. Because all five fit indices indicated that the proposed model had acceptable fit, we examined the parameter estimates contained in the model to test our formal hypotheses. The parameter estimates are provided in Table 4. The structural model is depicted in Figure 1.

Hypothesis Results

Hypothesis 1 predicted that perceptions of higher organizational embeddedness at Time 1 would be associated with greater declines in social capital development behaviors over time. The hypothesis was partially supported. As shown in Table 4 (in the column labeled "Conditional Model"), perceptions of organizational embeddedness at Time 1 were associated with the decline in internal social capital development behaviors ($\beta = .14$, $p < .05$) but not with the decline in external social capital development behaviors. It should be noted that the residual variance of the slope (decline) factors of internal social capital development behaviors and external social capital development behaviors were quite strongly correlated (correlation = .52, $p < .01$). This suggests that the potential effect of organizational embeddedness on the decline in external social capital development behaviors might be largely explained by its significant effect on the decline in internal social capital development behaviors. For example, as the intensity of networking with colleagues at work decreases, employees may also have less access to, and contact with, members of their colleagues' external networks (Bottorff, Glaser, Todd, & Alderman, 2009; DeWine & Casbolt, 1983). Overall, we found partial support for the hypothesis that individuals who perceive themselves as highly embedded are more likely to demonstrate greater declines in social capital development behaviors over time.

As shown in Table 4, we also found that perceptions of organizational embeddedness at Time 1 were positively associated with the initial status of internal social capital development behavior ($\beta = .41$, $p < .01$) and the initial status of external social capital development behavior ($\beta = .30$, $p < .01$). These findings make sense because social links are a core component of embeddedness perceptions (Mitchell et al., 2001), and managers who felt most

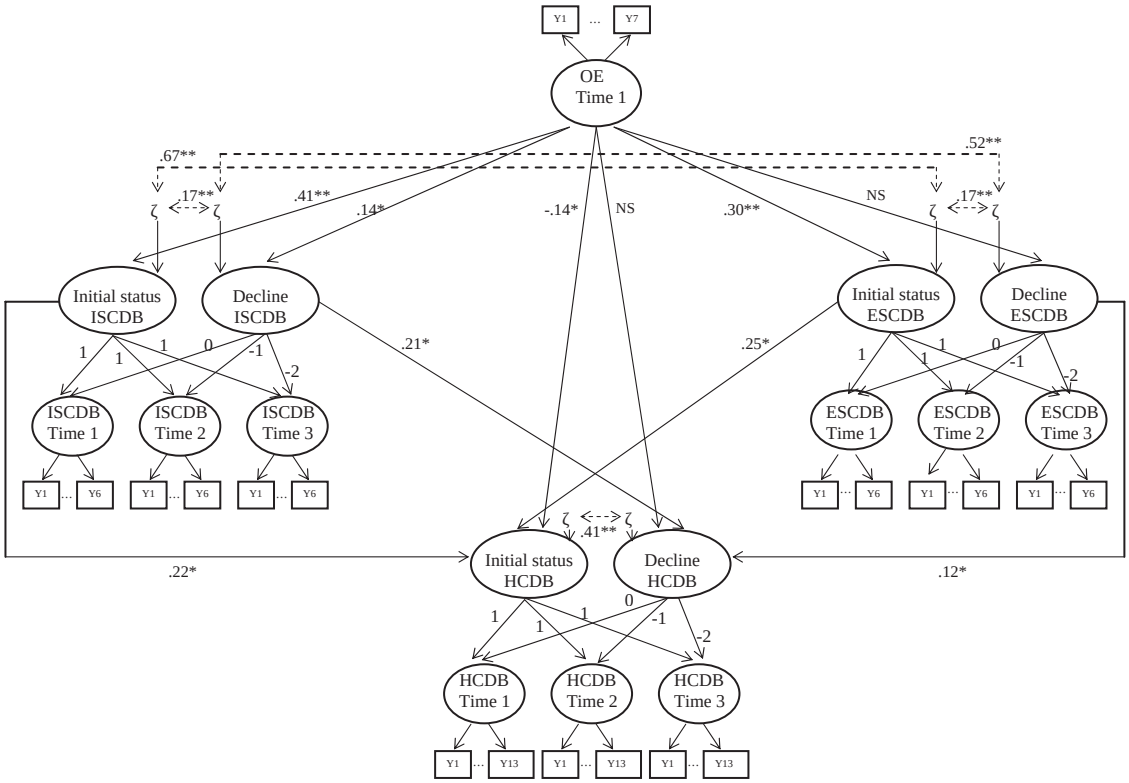

Figure 1. The structural model. Dotted lines represent correlations among variance components. Nondotted lines represent structural paths. Zeta represents factor variance/residual. OE = organizational embeddedness; NS = nonsignificant; ISCDB = internal social capital development behavior; ESCDB = external social capital development behavior; HCDB = human capital development behavior; Y = measurement item. * $p < .05$. ** $p < .01$.

embedded at Time 1 were more likely to have already developed extensive social links.

Hypothesis 2 predicted that perceptions of higher organizational embeddedness at Time 1 would be associated with greater declines in human capital development behaviors over time. As shown in Table 4, we did not find support for this hypothesis. That is, organizational embeddedness at Time 1 was not related to subsequent declines in human capital development behaviors. However, the initial status of organizational embeddedness and the initial status of human capital development behavior were indeed negatively related ($\beta = -.14$, $p < .05$); managers who were highly embedded at Time 1 were less likely to engage in human capital development at Time 1.

Hypothesis 3 predicted that a decline in social capital development behaviors would be positively related to a decline in human capital development behaviors. That is, when social capital development behaviors decrease over time, human capital development behaviors would also decrease. As shown in Table 4, we found that the decline in internal social capital development behaviors was, in fact, significantly related to the decline in human capital development behaviors ($\beta = .21$, $p < .05$). Similarly, the decline in external social capital development behaviors was also significantly related to the decline in human capital development behaviors ($\beta = .12$, $p < .05$). Therefore, Hypothesis 3 was fully supported; individuals who decreasingly engaged in social capital development behavior were likely to decreasingly engage in human capital development behavior as well.

Also, as expected, the initial status of internal social capital development behaviors was positively related to the initial status of human capital development behaviors ($\beta = .22$, $p < .05$). That is, respondents who reported higher levels of internal social capital development behaviors at Time 1 also reported higher levels of human capital development behaviors at Time 1. Similarly, the initial status of external social capital development behaviors was positively related to the initial status of human capital development behaviors ($\beta = .25$, $p < .05$).

Alternative Models

We examined several alternative models in order to further validate our proposed model. Once again, we controlled for the effect of age in testing the alternative models to be consistent with the above analysis strategy.

The first alternative model is one in which there are no relationships specified between social capital development behaviors and human capital development behaviors. In other words, this alternative model assumes that one's social capital development behaviors and human capital development behaviors are independent. In testing Alternative Model 1, we removed the relationships of the initial status of internal and external social capital develop-

ment behaviors with the initial status of human capital development behaviors from the original model. Here, also, we removed the relationships of the decline in internal and external social capital development behaviors with the decline in human capital development behaviors from the original model.

We found that, when we removed these four structural paths, the model fit was significantly worse. That is, the increase in chi-square value (which indicates badness of fit) was statistically significant ($\Delta\chi^2 = 385.86$, $\Delta df = 4$, $p < .01$). This suggests that it is reasonable to propose, as in our original model, that social capital development behaviors and human capital development behaviors are related.

The results associated with the testing of Alternative Model 1 above suggest that social capital development behaviors and human capital development behaviors are related, but it is also possible that social capital development behaviors are a consequence of human capital development behaviors rather than vice versa (as our original model proposes). For instance, it is possible that those who engage in human capital development activities may attract greater notice from their supervisors and senior executives and thus be able to build more ties with influential decision makers in the firm. In order to evaluate this possibility, we tested Alternative Model 2, in which the direction of this relationship was reversed from the original model. Although this change in specification did not alter the degree of freedom of the model, the goodness of fit indices might change depending on whether the model fit improved or worsened.

As shown in Table 3, this Alternative Model 2 has a chi-square value ($\chi^2 = 7{,}131.88$) higher than that of the proposed model ($\chi^2 = 6{,}934.75$) with the same degrees of freedom, suggesting that it has worse model fit than the original model. In addition, the Akaike information criterion (AIC) was 9,325.73, which was larger than that for the proposed model (9,049.34). AIC is particularly useful in model comparison when models are nonnested (Rust, Lee, & Valente, 1995). Significance difference tests are not available for AIC, but researchers typically consider the model with the lowest AIC to be the best fitting one relative to other models (Rust et al., 1995). These results indicate that it is more appropriate to specify the effect from social capital development behaviors to human capital development behaviors, as we did in the original model.

Finally, to further examine the relationship between social capital development behaviors and human capital development behaviors, we tested a third alternative model in which the initial status of both internal and external social capital development behaviors was specified to be related to declines in human capital development behaviors. The rationale for testing Alternative Model 3 was to examine whether a high level of social capital development behavior at Time 1 also triggers changes in human capital development behavior over time.

As shown in Table 3, the fit of Alternative Model 3 was the same as that for the original proposed model, with one exception. Namely, the SRMR for Alternative Model 3 was .09, which was .01 higher than that of the original model. Furthermore, the reduction in chi-square value ($\Delta\chi^2 = 5.97$, $\Delta df = 2$) is not statically significant, suggesting that adding the two paths from the initial status of internal and external social capital development behaviors to the slope (decline) factor of human capital development behaviors did not significantly improve model fit. An examination of the parameter estimates also revealed that these two structural paths were not statistically different from the value of zero.

These findings, then, suggest that there were no relationships between the initial status of internal and external social capital development behaviors and the decline in human capital development behaviors over time. Indeed, as posited in the original model, it is changes in social capital development behavior that elicit subsequent changes in human capital development behavior.

Discussion

The current study reports three key findings. First, once managers are highly embedded, they tend to engage in fewer behaviors that build internal social capital thereafter. However, embeddedness is not directly linked to changes in behaviors that build external social capital. Second, contrary to our prediction, organizational embeddedness is unrelated to subsequent changes in human capital development behavior. Finally, social and human capital development behaviors are closely related. Individuals who demonstrate greater declines in social capital development behaviors also show greater declines in human capital development behaviors. Taken together, these findings suggest that highly embedded workers decrease their behaviors to build social capital at work over time, which in turn also decreases their opportunities to build human capital.

We view these findings as quite novel in light of what previous researchers have uncovered about the nature of organizational embeddedness. As shown in Table 1, almost all existing studies have assumed that higher levels of organizational embeddedness will translate into positive outcome for firms in terms of performance and retention. Extrapolating from these earlier findings, one might infer that higher levels of organizational embeddedness would result in greater social and human capital building behaviors because embedded workers are more motivated workers in general (Halbesleben & Wheeler, 2008; Wijayanto & Kismono, 2004). Indeed, Lee et al. (2004) went so far as to argue that organizational embeddedness is an antiwithdrawal construct, implying that highly embedded workers would be less likely to withdraw their efforts to build social and human capital.

Our findings challenge this assumption about the consistently positive effects of organizational embeddedness. Organizational embeddedness may, in fact, enhance employee performance and lower turnover intentions in the short run, but it may also curtail employees' efforts to build both social capital and human capital in the long run. A few researchers have acknowledged the possibility that organizational embeddedness may be potentially hurtful to employees. For instance, Crossley et al. (2007) noted that "people who feel stuck in an unfavorable job may lose motivation, experience frustration, and even engage in counterproductive workplace behaviors" (p. 1041). Sekiguchi et al. (2008) also noted that "high job embeddedness may not always have positive results for organizations" (p. 786). The current study, however, is the first to empirically demonstrate the potential downside of organizational embeddedness.

Our study also helps to clarify the nature of the relationship between social capital development behaviors and human capital development behaviors. Previous research has suggested that this relationship might be negative or nonsignificant. The argument for a negative relationship derives from a "zero-sum" approach to

understanding how employees allocate time to various activities. It could be argued, using this framework, that these two sets of behaviors are competing for scarce employee time and that employees pursuing one set of behaviors would have less time to pursue the other. For instance, Belliveau (2005) found that graduates with higher GPAs (an indicator of intensity of human capital investment) reported significantly smaller networks for getting career advice. That is, students who spent more time studying (building human capital) had less time to spend on building social capital. Yet other researchers (e.g., Larson & Luthans, 2006) found no relationship between social and human capital building behaviors.

Our results, however, indicate that there is a positive relationship between these two types of capital building behaviors over time. When we examined the relationship using a change theoretical framework and an LGM methodology, we found a positive association between the two types of behavior. That is, as individuals more (less) actively develop social relationships with members of the organizational elite over time, they are increasingly (decreasingly) likely to be offered greater amounts of valuable career assistance (Ferris et al., 2007; Rosenbaum, 1979; Sonnenfeld et al., 1988).

Implications for Theory Development

An implicit assumption in much of the literature is that the effects of embeddedness are readily observable in the short run and fairly consistent over time. Thus, very low levels of organizational embeddedness are seen as leading to turnover behavior in the short run, and very high levels of organizational embeddedness are seen as greatly reducing the likelihood of employees' turnover in the long run (Crossley et al., 2007; Ng & Feldman, 2007). However, as the findings here illustrate, some reactions to embeddedness are not necessarily observable in the short run, and the effects of organizational embeddedness on employees' behaviors over time are often less systematic. For example, organizational embeddedness does contribute to declines in social capital development behaviors, but those changes occur rather gradually over time.

On a related point, our study is the first in this research area to use the LGM technique, and this highlights the importance of examining the cascading or expanding effects of organizational embeddedness over time. The LGM approach goes beyond merely measuring outcomes of organizational embeddedness at different points in time and instead requires researchers to model and explain the patterns of longitudinal changes observed. As such, it can be an important tool for future researchers examining how embeddedness leads to multiple changes in career management strategies simultaneously.

In addition, the results of the present study suggest that social ties play an even broader role in understanding the nature of organizational embeddedness than previously thought. In much of the existing literature on embeddedness, social links have been viewed as important antecedents of individuals' attachment to their current employers (Mitchell et al., 2001). Here we illustrate that social capital development behaviors (and their changes over time) are also important consequences of embeddedness. Indeed, whether the relationship between organizational embeddedness and social ties is positive or negative depends upon whether embeddedness is the independent variable, dependent variable, or merely a correlate. For example, although we found that organizational embeddedness at Time 1 was positively related to social capital development behavior at Time 1, we also found that embeddedness was related to declines in social capital development behavior over time.

Thus, although establishing social ties clearly contributes to enmeshing employees in their current organizations, once employees are embedded they often have fewer opportunities (and/or fewer incentives) to network any further. It is important, then, for organizational researchers to theorize more fully about the directionality of relationships between embeddedness and social ties, to consider the influence of time as a moderator, and to consider the changes in social behavior that flow from embeddedness.

Implications for Empirical Research

To fully understand how embeddedness affects different kinds of social and human capital development behavior, researchers should also examine another form of embeddedness, namely, occupational embeddedness (Ng & Feldman, 2007). Empirical research on organizational embeddedness has been growing, but to date there has been very little empirical research on occupational embeddedness. Just as employees can feel embedded in their organizations, individuals can feel enmeshed in their occupations, too. When employees already perceive a strong fit with their occupations, have developed extensive links with professional colleagues and activities, and have accumulated numerous side bets (e.g., professional reputations and social status), they might also have fewer incentives to keep networking with other colleagues in their field. In a way, then, occupational embeddedness may be an exogenous variable that affects perceptions of organizational embeddedness, social capital activities, and human capital development behaviors simultaneously.

In addition, more empirical research is needed on the measurement of social ties. First, we focused on the quantity of social ties but, as previous researchers have noted, greater attention needs to be paid to the quality and depth of those ties as well (Granovetter, 1973). Second, it is important for researchers to pay greater attention to the differences between internal links with organizational colleagues and external links with colleagues in other firms. As our results here suggest, employees are able to distinguish between these two types of social ties, and both are important correlates of organizational embeddedness. Finally, in the present study, we did not differentiate among different types of internal social ties (i.e., differences in ties with peers, subordinates, supervisors, members of other units, and senior leaders). It is possible that discernible differences might exist when researchers distinguish among these various types of internal social capital, too.

Future empirical research should also investigate the relationship between organizational embeddedness and human capital development behaviors more fully. We found that, although organizational embeddedness was associated with less human capital development at Time 1, organizational embeddedness did not directly affect declines in human capital development behaviors over time (as we predicted in Hypothesis 2). A possible reason for this result is that managers who are not embedded at Time 1 also decrease their human capital investments over time, because they intend to leave shortly and there is little reason for them to engage in any organization-specific human capital development. Thus,

both highly embedded and unembedded managers might decrease their human capital development activity over time but for different reasons.

The current study also has two additional methodological limitations that might be addressed in future research. Even though we collected three waves of data over an 8-month period, our research design did not allow for strong causal inferences. Longitudinal designs with more measurement waves and lengthier time frames are needed to provide stronger causal evidence. Moreover, both social and human capital development behaviors were self-reported. Although it can be argued that workers themselves have the clearest idea about how much time they spent on different kinds of social and human capital development activities, objective or archival measures of such participation would be especially useful.

Conclusion

The findings of the current study highlight a dilemma that deserves more attention from those who set human resource management strategy in the firm.Our findings suggest that promoting employee embeddedness yields countervailing results. As a retention strategy and as a short-run motivational strategy, firmly embedding employees within an organization (e.g., providing more longevity-based benefits) may be very effective (Lee et al., 2004; Mitchell et al., 2001). However, we also found that managers who perceive themselves as highly embedded gradually lose motivation to continue building social capital and ultimately lose motivation to continue building human capital.

Thus, organizations that rely on embeddedness strategies to retain the best managers may also find that they have demotivated those managers from engaging in further self-development activities. Moreover, these declines in social capital and human capital can have negative effects on organizational functioning. The reduction in social capital building behavior can be internally detrimental because it might dampen cohesion and communication among colleagues. The reduction in social capital building behavior can be externally detrimental because it decreases boundary spanning for new business opportunities and lowers the chances for importing new technology and innovation (Acquaah, 2006).

How "good" embeddedness is, then, depends upon whether the beneficiary is the organization or the employee, whether the time frame is short run or long run, and whether the targeted outcome is retention, current productivity, or future employee development. Ultimately, we hope, the present study will stimulate new theoretical perspectives on the nature of organizational embeddedness, alternative operationalizations and research designs to explore it, more focus on its effects over time, and greater attention to both its positive and negative consequences in practice.

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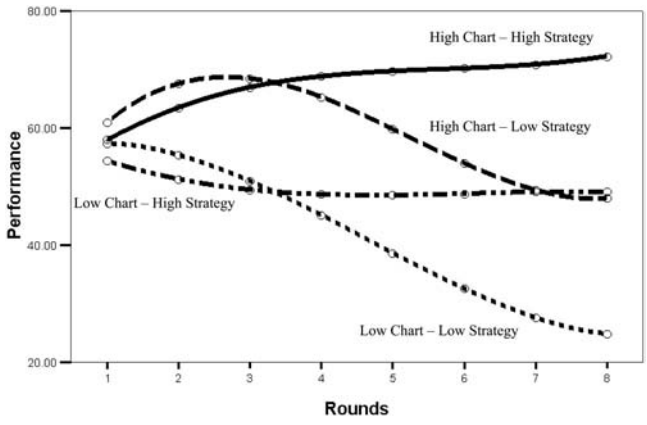
Correction to Mathieu and Rapp (2009)

In the article "Laying the Foundation for Successful Team Performance Trajectories: The Roles of Team Charters and Performance Strategies," by John E. Mathieu and Tammy L. Rapp (*Journal of Applied Psychology, 94,* 90–103), the "High Chart–Low Strategy" and the "Low Chart–High Strategy" lines were inadvertently reversed in Figure 1. Below is the corrected version of Figure 1.



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