Role innovation through employee social networks: The embedded nature of roles and their effect on job satisfaction and career success

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Abstract
We theorize that the location of individual actors in the context of the larger social network within the organization has important but to date overlooked implications for employee role innovations. Complementing past research that places primary emphasis on individual predictors of role innovations, we developed arguments about the nature of basic characteristics of the social structure (the nature of distal and proximal ties) as resources that provide employees with the potential to be innovative about their roles in ways that enhance job satisfaction and career success.

Keywords
careers, groups/teams, job design, social networks

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A top manager of a large global service firm praised her company’s evaluation process because it was “the best aid for identifying management material.” Specifically, she added, the evaluation system documented instances when employees “redefined their
positions in meaningful ways” and/or “adapted their organizational roles in ways that showed an understanding of corporate objectives.” Based on in-depth discussions of these evaluations, employees were promoted or singled out as “management material” with significant implications for their careers.

These lines illustrate the importance of enacted roles for individuals and for organizations. At the individual level, people enact their roles in ways that allow them to meet their needs and desires, redefine their positions, and advance their careers (Baker & Faulkner, 1991; Collier & Callero, 2005). These enacted roles thus become resources to employees. Although traditional approaches view roles as enacted from a position (Linton, 1936), we adopt the more novel perspective that roles are claimed by employees and then enacted into positions (Baker & Faulkner, 1991). Thus employees proactively use their enacted roles as resources to develop social, symbolic, and material capital that allow them to improve their job satisfaction and career success (Callero, 1994; Fine, 1996).

At the organizational level, dynamic competition, the need to do more with less, and overstretched talent pools have lead to flattened organizational hierarchies where employees are expected to enact roles without regard to traditional organizational and job boundaries (Cappelli et al., 1997). For example, Bridges (1995) describes “job shifts” as reactions to escalating change and uncertainty where fixed positions dissolve into emergent roles. Consistent with this view, uncertain and changing work environments produce emergent elements that are added to established roles to enhance organizational effectiveness (Griffin, Neal, & Parker, 2007).

As more organizations emphasize emergent roles as mechanisms to maximize their effectiveness in increasingly dynamic competitive environments, it is important to consider how an employee’s social network structure influences employee opportunities to engage in role innovations. To date, however, most research on predictors of role innovation focus on job discretion and individual differences (Humphrey, Nahrgang, & Morgeson, 2007). Although job discretion is traditionally viewed as an enabler of role innovation, results are mixed (see Ashforth & Saks, 1995; Nicholson & West, 1988, for supporting evidence; and Munton & West, 1995, for opposing evidence). Likewise, even though research shows that individual differences such as skills, knowledge, need for growth, and desire for control can enhance role innovation (Nicholson & West, 1988; Scott & Bruce, 1994), these individual-difference predictors have limited explanatory power due to the limits of talent pools available to the organizations (Cappelli et al., 1997).

If one takes the perspective that individual role innovations are merely aggregated from the micro level to the macro level, then organizations with many actors with individual characteristics that favor role innovation should be able to maximize their effectiveness in dynamic competitive environments. This approach, however, is problematic because it is equivalent to stating that effective organizations are those that are already rich in the knowledge, skills, and abilities that facilitate role innovation. Taking a different approach, we stress the importance of structural factors that can influence role innovations. Thus we focus on the location of individual actors in the context of the larger social structure of the organization. We refer to this as “employee embeddedness.” We suggest that employee embeddedness has implications for role innovations, which have implications for job satisfaction and career success.

The objective of this paper is to present a theoretical model that links characteristics of employee embeddedness with role innovations to subsequent effects on job satisfaction and career success. We theorize that fundamental structural characteristics (the nature of distal and proximal ties) provide employees with the potential to be proactive in three different types
of role innovations: innovation in role behaviors, innovation in role cognitions, and innovation in role sets. Consistent with the example at the beginning of this paper, we then argue that these role innovations have differential effects on job satisfaction and career success.

Role innovation can occur in at least three different ways. First, role innovation includes personalizing a role to suit the agent, including changes in expected work behaviors “ranging from minor initiatives such as variations in work schedules to more dramatic role innovations such as changes in the main goals of the organizational work” (Nicholson & West, 1988, p. 106). Second, role innovation includes changes in employee cognitions. From an interactionist perspective, employees can use their role cognitions as proxies for making sense of the relationship between self and the social context (Callero, 1994). Third, role innovation also includes changes in relationships with others (Grant & Hofmann, 2011). This can occur through negotiation of role relationships, and it results in changes in role sets—those an employee interacts with regularly in the course of performing the job (Katz & Kahn, 1978). In sum, we define role innovation to include employee changes in role behaviors, role cognitions, and role sets. Each of these represents a modification of the employee's position in the contextualized social structure.

Few employees function with total independence (Wageman, 1995). Instead, work is increasingly interdependent because most organizations rely on teams and workgroups (Ilgen, 1999). At the same time, organizations emphasize the importance of employee initiative and proactive behavior as critical for timely responses to changing competitive demands (Grant, 2000). Combining these ideas, we focus our theorizing on the structural factors of network ties within the social context at work as factors that to date have been overlooked in models of role innovation (Burt, 1997; Salancik & Pfeffer, 1978). Our model thus goes beyond prior work by emphasizing structural factors as having potentially profound influences on employee role behaviors, role cognitions, and role sets. This model should therefore complement prior models that focus primarily on individual factors predicting role innovations.

Employee embeddedness

We use the term “embeddedness” to represent the location of individual actors in the context of the larger social structure of the organization (Dacin, Ventresca, & Beal, 1999) and define it broadly as the degree to which actors and their behaviors are linked to the social context (Lee, Mitchell, Sablinski, Burton, & Holtom, 2004), in our case the work context. We start with the core premise that employee role perceptions—that is, their perceptions about their role behaviors, role cognitions, and role sets—are influenced by the mutual coordination that occurs within the organizational context. Social ties in organizations reflect interdependencies among formal positions (as defined by workflow diagrams and organizational charts) as well as informal interdependencies (personal relationships between individuals). As Podolny and Baron (1997) observe, formal organizational roles (workflow and reporting relationships) create task interdependencies, resource flows, and opportunities for contact such that employees “inherit” networks based on formal organizational positions. In addition, informal interdependence emerges among specific employees. Thus our model recognizes both formal and informal ties.

More important, we differentiate interactions that occur within the immediate workgroup from interactions that occur across units, across hierarchical levels, and beyond organizational boundaries. Thus we position proximal and distal ties as two separate constructs because viewing ties on a continuum ranging from proximal to distal can obscure fundamental differences in the resources provided to employees by proximal ties compared to distal ties.
We define proximal ties as interactions that are internal to the immediate workgroup as opposed to those that are external (Burt, 2003). Drawing on social network research, we further specify proximal ties as based on formal structural cohesion and equivalence (Burt, 2003). Formal structural cohesion is represented by workgroup task interdependence and workflow interactions (Brass, 1984). For example, proximal ties include day-to-day negotiations among workgroup peers about who will perform specific role behaviors. This interdependence is local and focused on the immediate workgroup. Structural equivalence occurs when group members have similar roles in the required workflow network in a workgroup (Burt, 2003). For example, employees are structurally equivalent when proximal ties represent redundant work interactions shared by members of a workgroup that reports to the same supervisor (Lorain & White, 1971). Proximal ties are often redundant because workgroups tend to operate as bounded social systems with shared interdependencies.

We define distal ties as work-related interactions outside the immediate workgroup. Distal ties can be based on formal relationships or informal relationships. Since distal ties go beyond the immediate workgroup (Brass, 1984; Podolny & Baron, 1997), they are not necessarily shared with others in the proximal group. For example, an employee might have a tie with an employee in another subunit in the department that is not shared with others in the workgroup (e.g., a loan analyst’s relationship with a credit-rating specialist in a different section of the same loan-processing department). Alternatively, an employee might have a cross-functional tie across departments (e.g., a loan analyst’s relationship with an employee in the bond department), a vertical tie across hierarchical levels (e.g., a loan analyst’s relationship with the vice president of the loan division), or an external tie across organizational boundaries (a loan analyst’s relationship with analysts in other organizations). Each of these represents a distal tie since they extend beyond the immediate workgroup. Distal ties are especially important to role innovation, as we argue in more detail later, because they are more likely to provide access to nonredundant information and relationships compared to proximal ties.

It is important to note that we adopt the proximal and distal ties terminology to represent a broader conceptualization of distance between agents or employees than that represented for example in the use of intra or inter-teams ties that is found in the teams literature (Oh, Chung, & Labianca, 2004; Oh, Labianca, & Chung, 2006). Proximal and distal refer to separation across a broad set of organizational boundaries. The separation can be between teams but also between basic functional workgroups, departments, functional areas and other particular organizational groupings. When we refer in our theorizing to within and outside the workgroup we specifically intend to make our theorizing generalizable to a broad set of potential organizational groupings. For example, an intrateam tie within a cross-functional team (consisting of employees from different functional areas within a firm) would be a distal tie for the tie holders with respect to their functional areas even if it may be proximal with respect to their cross-functional team. Such a tie will have different implications for role innovation for these tie holders with respect to their functional areas and their cross-functional team.

Proximal and distal ties can be used to describe the embeddedness of an employee in the context of the larger social structure of the organization. We suggest, however, that it is also important to consider the strength of these ties because strong ties have different implications for role innovation. Strength of ties is the level of emotional affect in a relationship (Granovetter, 1973; Higgins & Kram, 2001). Strong ties are characterized by intensity, closeness, and ongoing relationships that involve commitment and investment, empathy and
unconditional regard, and intimacy (Cramer, 1986; Lund, 1985). Thus, our conceptualization of strong ties is not based on frequency of interaction. Instead, even though interaction may lead to development of strong ties (Brass, Galaskiewicz, Greve, & Tsai, 2004; Festinger, Schachter, & Back, 1950), frequency of interaction does not necessarily represent more than a weak tie. For example, an employee might interact regularly with a workgroup peer and yet maintain a strictly formal relationship characterized by low liking and distrust. Likewise, an employee might interact regularly with someone outside the workgroup and never develop a close or intense personal relationship.

Considering strength of ties allows us to refine the notion of proximal and distal ties. When work ties (either proximal or distal) are strong, personal liking and trust create informal interdependence (Marsden & Campbell, 1984; Podolny & Baron, 1997). Strong ties enhance employees’ influence both directly (through proximal personal persuasion) and indirectly (through use of distal information and external support). Weak ties are less intense, less personal, less reciprocal, and more substitutable (Granovetter, 1973, 1982; Lin, Ensel, & Vaughn, 1981b). Strength of ties is therefore based on informal aspects of relationships. Strong ties are not a function of formal interdependence and thus can apply to proximal and/or distal ties.

**Differences in resources provided by strong proximal and distal ties**

As noted above, we differentiate proximal interactions that occur within the immediate workgroup from distal interactions that occur across units, across hierarchical levels, and beyond organizational boundaries. This is an important contribution of our theorizing because different types of ties provide employees with different types of resources and different opportunities to engage in role innovation. Specifically, strong proximal ties provide opportunities to influence others in the immediate workgroup (Côté & Hideg, 2011). In contrast, strong distal ties provide access to information and third-party support that can be used to influence those in the proximal workgroup and/or in other parts of the organization. These differences in access to resources are the causal mechanisms on which we draw later in the paper to propose differential effects of strong proximal compared to strong distal ties on role innovations. Table 1 contrasts the mechanisms provided by strong proximal and distal ties and becomes the basis for the propositions we develop in the next section.

**Employee embeddedness and role innovations**

The focus of our work is on employees’ opportunities for role innovation and its social network antecedents. We start developing our model by focusing on the resources provided by strong distal ties. We then shift our focus to the resources provided by strong proximal ties and conclude this section by considering the joint (interactive) effects of strong distal ties combined with strong proximal ties. In general, our arguments differentiate resources available to employees through different network positions and the opportunities for role innovation that they derive from such network configurations. Figure 1 summarizes our model and proposed relationships.

**Role innovation and distal ties**

Innovation in role behaviors at work is defined as innovation in work behaviors “ranging from minor initiatives such as variations in work schedules, to more dramatic role innovations such as changes in the main goals of the organizational work” (Nicholson & West, 1988, p. 106). Innovative role behaviors include changes in role breadth (Parker, 1998) and suggested changes in practices used to accomplish the work (LePine & Van Dyne, 1998). In addition, some employees are proactive and exercise
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personal initiative (Crant, 2000) to engage in role making (Graen, 1976) or task revision (Staw & Boettger, 1990) where they change the nature of their role behaviors.

When employees have strong distal ties, these close personal relationships with individuals outside the core workgroup provide them with opportunities to obtain information and third-party support that is not readily available from within the core workgroup, which then become valuable resources that can be used as input for innovative role behaviors. For example, strong distal ties allow employees to expand their social capital. An expanded network of close personal ties with those outside the immediate workgroup should facilitate access to nonredundant information that can be used for innovation in role behaviors (Ancona & Caldwell, 1992). In addition, strong distal ties provide access to increased external support (Druskat & Wheeler, 2003). For example, an employee can obtain support from individuals outside the workgroup that is often viewed as more “objective” and should be useful for influencing others in the workgroup and legitimizing innovation in role behaviors.

The literature on ties and information takes two contrasting positions as to the value of weak and strong ties. Early social network research typically implies that strong ties represent shared access to social resources (redundancy) and weak ties represent access to nonredundant information useful for bridging structural holes (Granovetter, 1973). More recent approaches, however, take the position that nonredundant ties are not necessarily weak ties (Higgins & Kram, 2001). When individuals are members of parallel social systems, they hold a combination of stronger and weaker ties (without redundancy) across social systems. A
Proposition 1a: Strong distal ties increase an employee’s opportunity to innovate in role behaviors.

Innovation in role cognitions at work is defined by the interactionist perspective as changes in social meaning in which roles serve as a proxy for explaining the relationship between the self and the work social context (Callero, 1994; Katz & Kahn, 1978). For example, at one extreme employees view their work as a set of discrete tasks. At the other end of this continuum, they view their work as an integrated whole with broader purpose. Innovation in role cognitions is represented by changes in how employees view their jobs—changes in their thoughts about their jobs.

When employees have strong distal ties, they have opportunities to obtain information and third-party support that is not readily available within the core workgroup. Using similar conceptual arguments to those advanced for Proposition 1a, we posit that strong distal ties provide employees with opportunities to innovate in role cognitions. Consistent with this reasoning, Tushman and Scanlan (1981) demonstrate that ease of access enhances effectiveness in scouting for information. For example, a product manager who has a close relationship with an analyst in market research (strong distal tie) most likely would be comfortable asking for information on preliminary market projections. In contrast, a product manager with a weak distal tie would need to be cautious in requesting market information and would be less likely to obtain information regularly. Ease of distal access—that is, access that spans multiple functions and/or organizational levels (Clark & Fujimoto, 1991)—provides employees with new information, schemas, and beliefs that should provide them with opportunities to reframe their role cognitions.

Strong distal ties allow employees to broaden their perspectives, which in turn facilitate changes in how work is conceptualized, including the overall sense of work contributions.
interdependence with others, and personal identity (Granovetter, 1973). Consistent with this, Tushman and Katz (1980) demonstrate that distal ties enhance information exchange and prevent parochial or insular cognitions about work. For example, if an engineer in logistics has strong distal ties with employees in manufacturing and sales, the engineer’s work cognitions most likely include production and client perspectives (Ibarra & Andrews, 1993). This broader perspective, based on easier access to information and external support, should enhance role cognition innovation (Granovetter, 1982). In sum, we posit a positive relationship between strong distal ties and opportunities for role cognition innovation.

Proposition 1b: Strong distal ties increase an employee’s opportunity to innovate in role cognitions.

Innovation in role sets at work is defined as changes in the quantity and/or quality of the set of interlocking network positions that define the structure of an employee’s role set (Baker & Faulkner, 1991; Katz & Kahn, 1978). For example, some employees are well connected to others, both directly and indirectly, through links in their social network of relationships. In contrast, other employees have few connections to others. Innovation in role sets occurs when employees proactively change the nature of their social network, enabling access to resources available from others.

Consistent with our earlier emphasis on the importance of distal ties, we posit here that strong relationships outside the boundaries of workgroup (strong distal ties) will enhance innovation in role sets. When employees have access to the social capital and resources of others, both directly and indirectly (Lin, Ensel, & Vaughn, 1981a), the resources provide them with insider information about others (such as their expertise in a specific area or their general tendency to follow through and deliver quality work). Strong distal ties also provide employees with the opportunity to obtain referrals to and from others (introductions and help gaining attention). Both facets of strong distal ties—access to information and access to third-party support—allow employees to check on others’ reputations and obtain outside opinions about which employees can be trusted. In other words, strong distal ties provide employees with the opportunity to use the social capital of their network to expand their role sets without personally developing each new relationship individually and without unnecessary risk (Lin et al., 1981a).

The research literature provides support for this assertion. Benefits of strong distal ties include high trust and rapid responses (Kilduff & Krackhardt, 1994) as well as indirect access to unique information, unique new ties, and unique resources (Granovetter, 1982). We suggest that this knowledge and support should be especially useful for innovation in role sets. For example, loan analysts who have close personal relationships with sales coordinators (strong distal ties) can regularly obtain missing information from sales agents and rapidly finalize loan application materials instead of simply rejecting incomplete forms. When distal ties are strong, loan analysts have more opportunities to access and benefit from relationships with relevant others. A product manager who has a close personal relationship with the vice president of sales should be able to access higher quality information from manufacturing based on personal introductions and preexisting trust of indirect ties because those with strong distal ties are better able to obtain candid opinions and information about other people in the organization. This insider information on reputations allows employees to modify their work relationships and patterns of interaction so that they use reputational information to determine on whom they will rely, whom they will trust, and whom they will avoid because they are generally perceived as untrustworthy. In contrast, those with weak distal ties have less and slower access to insider
information about others in their potential role sets. Thus, they have less opportunity to innovate role sets. In sum, we propose a positive relationship between strong distal ties and opportunities for role set innovation.

Proposition 1c: Strong distal ties increase an employee’s opportunity to innovate in role sets.

Role innovation and proximal ties

Role innovations seldom occur in a vacuum where there are no proximal ties. Instead, role behavior innovation typically occurs within a workgroup where employees are interdependent and must coordinate their work efforts. Accordingly, it is important to consider the nature of proximal ties and the manner in which they influence role innovation. In this section, we first consider the direct effects of strong proximal ties and then turn to the joint (interactive) effects of strong distal ties combined with strong proximal ties.

Proximity facilitates social interaction (Festinger et al., 1950). Likewise, similar tasks (Carley, 1991), formal structure, and workflow design (Brass & Burkhardt, 1992), together with the relevance of employees’ roles for their group (Humphrey, Morgeson, & Mannor, 2009), enhance social interaction within workgroups. Those in the same workgroup are typically interdependent and share workflow and communication content, which together create proximal ties. In some cases, however, relationships within the workgroup expand beyond formal ties, becoming more personal and including advice and friendships (Bridge & Baxter, 1992). This increases the amount and breadth of shared information (Brass et al., 2004) as well as the level of trust in the relationship (Gibbons, 2004). Strong ties enhance an employee’s social position in the workgroup based on interpersonal attraction, trust, support, and friendship. Within such trusting relationships, employees are more likely to take the risk of speaking up and suggesting changes in work practices (LePine & Van Dyne, 2001; Van Dyne, Kamdar, & Joireman, 2008). Overall, those with strong proximal ties are better able to influence others to support their ideas for change because generalized trust makes change seem less threatening (Gibbons, 2004). Therefore, those with strong proximal ties benefit from the resource of having influence within the workgroup.

The leadership literature provides additional support for this causal mechanism and the notion that strong proximal ties enhance influence within the group. For example, research demonstrates that those who are liked and respected in their groups are more likely to emerge as leaders and will have greater influence over others (Hollander & Julian, 1969). In addition, Friedkin’s (1993) longitudinal study of the structural bases of interpersonal influence in groups demonstrates that stronger ties increase influence within the group, even after controlling for the elementary basis of interpersonal power (reward, coercive, legitimate, expert, and referent power; French & Raven, 1959). Employees with strong proximal ties (friendships) are especially visible and salient to coworkers, which further enhances their interpersonal influence within the group.

In conclusion, employees with strong proximal ties should have more influence in the workgroup and more opportunity to innovate in role behaviors. For example, a technical employee with high tenure in the workgroup who is liked and respected by others in the group (strong proximal ties) should be better able to persuade others to accept his/her changes in role behaviors. In contrast, new hires with no previous work relationships in the group (weak proximal ties) are constrained by the challenges of learning their new roles and conforming to existing role behaviors (Morrisson, 1993). In sum, we propose a positive relationship between strong proximal ties and opportunities for role behavior innovation.
Proposition 2: Strong proximal ties increase an employee's opportunity to innovate in role behaviors.

We note that the previous description of causal mechanisms associated with strong proximal ties differs from some past approaches (Coleman, 1988). This is intentional and represents one of the potential contributions of our approach. Traditional research assumes that dense networks of strong ties constrain independent action by providing sanctions for behavior that deviates from group norms. Our approach differs in two ways. First, Coleman (1988) examines the negative relationship between cohesion in parent–teacher networks (strength of proximal ties) and dropping out of school. Thus, this research focused on effects across different actors where a highly cohesive network between parents and teachers influences student behavior (staying in school). In contrast, we emphasize the network of the actor and consequences to the actor (role innovation, job satisfaction, and career success). We argue that strong proximal ties within the workgroup provide employees with opportunities to innovate in role behaviors based on liking and trust. Second, we emphasize the broader social system and the possibility that actors also have distal ties. In contrast, Coleman adopts Simmel’s (1955) group affiliation perspective and focuses on the development of trust and norms in a single affiliation group without considering additional group affiliations (other proximal and distal ties). We suggest that differentiating proximal and distal ties and the influence mechanisms associated with each allows more refined theorizing and thus is a potential contribution of our approach.

The joint effects of distal and proximal ties

Considering the combined effects of distal and proximal ties suggests that the effects of employee embeddedness are more complex than simple direct effects alone. Instead, we argue that the nature of proximal ties will change the relationships between distal ties and role innovation. In addition, drawing on prior theory and research, we develop arguments predicting that the joint effects of distal ties and proximal ties will differ across the three types of role innovations: role behavior innovation, role cognition innovation, and role set innovation.

In P1a we predicted positive effects of strong proximal ties, and in P2 we predicted positive effects of strong distal ties on innovation in role behaviors. Now considering the joint effects of both types of ties simultaneously, we propose an enhancement effect where both predictors have positive relationships with innovation in role behaviors, but that strong proximal ties strengthen the positive relationship between distal ties and role behavior innovation (see illustration P3a in Table 1). Strong proximal ties provide employees with resources that allow them to capitalize on information and outside support, enhancing their opportunities for role behavior innovation while simultaneously preserving cooperation and coordination of work. This logic parallels the rationale developed and applied by Reagans, Zuckerman, and McEvily (2004) at the team level; they reason that internal density (the nature of proximal ties) and external range (the nature of distal ties) combine to enhance team performance such that proximal ties allow teams to realize the value embedded in their distal ties (Burt, 2003).

Strong proximal ties combined with strong distal ties give employees three important resources that should facilitate role behavior innovation: (a) influence in the proximal workgroup where role behavior innovation must be negotiated, (b) access to distal information that provides ideas for role behavior innovation, and (c) external support that can help convince others to accept role behavior innovation. Although it might seem reasonable to expect simple additive effects, we argue for interaction effects because strong proximal ties should strengthen employees’ opportunities
to use the resources embedded in their distal ties. Restated, influence within the workgroup should make employees more effective in persuading others to accept role behavior innovation that they develop based on access to information and third-party support. For example, a loan analyst with strong proximal ties in the workgroup who also has strong distal ties in the sales department (perhaps due to previous tenure or personal relationships) has more than proportional influence on changes in role behaviors (such as how to handle application rejections due to incomplete information) compared to a loan analyst recently transferred into the group from the sales department (strong distal ties but weak proximal ties). In sum, we propose an interaction effect where strong proximal ties enhance the relationship between distal ties and opportunities for role behavior innovation.

Proposition 3a: Strong proximal ties strengthen the positive relationship between distal ties and opportunity to innovate in role behaviors.

We also propose an interaction effect for innovation in role cognitions where the nature of proximal ties changes the relationship between distal ties and role cognition innovation. In contrast to Proposition 3a, however, we do not expect positive relationships for both predictors when they are considered simultaneously. Instead, when proximal and distal ties are considered jointly, we expect a positive relationship between distal ties and role cognition innovation when proximal ties are strong, but no relationship between them when proximal ties are weak. Table 1 provides an illustration of this predicted interaction (see P3b).

Our reasoning for this difference is based on the unique relevance of strong proximal ties to innovation in role cognitions. Strong distal ties provide employees with the raw material and resources (access to information and third-party support) to develop innovation in their role cognitions. When combined with strong proximal ties in the workgroup, employees have the influence to convince others to go along with their role cognition changes. This results in a positive relationship between distal ties and innovation in role cognitions when proximal ties are strong. Thus, strong proximal ties allow them to capitalize on the raw material provided by their distal ties for changes in role conceptualizations. In contrast, however, when employees have strong distal ties and weak proximal ties, they have the raw materials to come up with ideas for role cognition innovation. However, their lack of strong proximal ties will constrain implementation of these new ideas because workgroup task interdependence and workflow interactions constrain the ways that employees think about their roles and prevent them from capitalizing on the ideas they obtain from distal ties.

Consistent with these arguments, research demonstrates that strong proximal ties facilitate evolving expectations such as when new values or novel beliefs are transferred from friend to friend (Gibbons, 2004; Podolny & Baron, 1997). Strong proximal ties combined with strong distal ties allow employees to avoid problems and constraints that can occur when multiple constituencies have different and inconsistent role expectations (van Sell, Brief, & Schuler, 1981). This in turn allows them to implement changes in role cognitions. In line with our arguments, Druskat and Wheeler (2003) demonstrate the multiplicative benefits of strong local and distal relationships such that managers who use personal contacts to obtain information from other areas are better able to persuade their workgroups to accept changes. Accordingly, we posit an interaction effect with a positive relationship between distal ties and role cognition innovation when proximal ties are strong, but no relationship between distal ties and role cognition innovation when proximal ties are weak.

Proposition 3b: Strong proximal ties strengthen the positive relationship between distal ties and
opportunity to innovate in role cognitions, but there will be no relationship between distal ties and opportunity to innovate in role cognitions when distal ties are weak.

As we have argued above, innovations in role behaviors and role cognitions are primarily implemented within the immediate workgroup. In contrast, innovation in role set involves more distal network relationships and is primarily implemented outside the confines of the workgroup because innovation in role set is defined as change in the quantity and/or quality of the set of interlocking network positions that define the structure of an employee’s role set (Baker & Faulkner, 1991; Katz & Kahn, 1978). Thus, by definition, innovation in role sets focuses on more distal relationships.

This leads to a contrasting expectation for the joint effects of distal ties and proximal ties as predictors of role set innovations. As we proposed in Proposition 1c, there are strong theoretical reasons to expect a positive relationship between strong distal ties and role set innovation. In contrast, however, strong proximal ties focus attention inward on the workgroup itself and serve to constrain expansion of role sets. Proximal ties facilitate innovation at the proximal level—within the workgroup. At the same time, proximal ties tend to obstruct innovation that might occur in more distal relationships. This results in a positive relationship between distal ties and role set innovation only when proximal ties are weak. Thus, strong proximal ties prevent employees from capitalizing on the raw material provided by their distal ties for role set innovation (see Figure P3c in Table 1 for an illustration of predicted interaction).

Consistent with these conceptual arguments, research demonstrates that strong proximal relationships such as those based on liking and friendship reinforce existing patterns of interactions and constrain changes in role set (Kiesler & Kiesler, 1969). Hence, even though distal ties provide employees with opportunities for role set innovation (Granovetter, 1982), changes in distal relationships can threaten those in the immediate workgroup, raising questions about allegiance and loyalty. As a result, when both distal and proximal ties are strong, conflicts in role expectations (van Sell et al., 1981) based on strong proximal ties constrain opportunities to act upon ideas for innovation in role sets obtained from strong distal ties. In sum, we propose an interaction effect where strong proximal ties constrain (weaken) the relationship between distal ties and opportunities for role set innovation. Thus, the relationship between distal ties and role set innovation will be positive only when proximal ties are weak.

Proposition 3c: Strong proximal ties weaken the positive relationship between distal ties and opportunity to innovate in role sets.

**Role innovation, satisfaction, and career success**

Thus far we have argued that proximal and distal ties can facilitate or constrain employee role innovations. Although existing research generally emphasizes the benefits of proactive employee behaviors for job satisfaction and career success (Grant, 2000), this literature has not yet considered the socially embedded nature of work and the structural characteristics of employee proximal and distal networks. Going beyond prior theory, we focus on role innovation as a potentially important mechanism that influences job satisfaction and career success.

**Role innovation and job satisfaction**

Job satisfaction is defined as an employee’s affective experience at work (Weiss & Cropanzano, 1996). Three streams of research point to specific reasons to expect that innovation in role behaviors will increase job satisfaction. First, research supports a positive relationship between feelings of control or influence and job satisfaction (Wayne, Liden, Krainer, & Graf,
1999). For example, the Greenberger, Strasser, and Lee’s (1988) research on nursing service employees demonstrates a positive relationship between employee perceptions of personal control and contingent rewards. Spreitzer, Kizilos, and Nason (1997) demonstrate that four aspects of empowerment (meaning, competence, self-determination, and impact) predict job satisfaction.

Second, role behavior innovation allows employees to align job tasks with personal knowledge, skills, and ability. When jobs emphasize employee strengths, feelings of self-efficacy and job satisfaction are enhanced. Stevens and Gist (1997) demonstrate that mastery-oriented training enhances positive affect. Suppose, for example, that a loan analyst modifies role behaviors to emphasize personal strengths (expanding the job to handle all construction industry client applications based on expertise in the industry). In this scenario, the analyst should feel more efficacious about work and this should enhance the overall affective experience.

Third, role behavior innovation also enables employees to improve person–job (P–J) fit by modifying tasks to suit individual needs and preferences (O’Reilly, 1977). Prior research consistently demonstrates positive relationships between fit and satisfaction. For example, Kristof-Brown, Jansen, and Colbert (2002) use critical incidents to show that person–job fit has positive effects on work satisfaction. O’Reilly, Chatman, and Caldwell (1991) demonstrate that matching accountant skills to job descriptions (P–J fit) results in higher job satisfaction. Saks and Ashforth (1997) show that P–J fit of new hires has positive effects on job satisfaction. For example, a loan analyst who changes role behaviors by taking on additional responsibilities (proactively obtaining missing information so that more loans are approved) can satisfy a personal need for achievement. Thus, we propose a positive relationship between role behavior innovation and employee job satisfaction.

Proposition 4a: Innovation in role behaviors increases job satisfaction.

We also propose that innovation in role cognitions will enhance job satisfaction. Our argument is based on research on experienced meaningfulness of work, role clarity, and role identity. When employees’ distal and proximalities facilitate innovation in their role cognitions, they are more likely to understand their roles in the context of the broader organization, clarify the expectations of others about their roles (Morrison, 1993), and use their new cognitions to manage self-perceptions and identity (Stryker, 1980; Stryker & Burke, 2000).

Consistent with this, research demonstrates that understanding how the work role fits into the larger system and contributes to objectives increases job satisfaction (see Fried & Ferris, 1987; Loher, Noe, & Moeller, 1985, for meta-analytic support). Increased clarity about the expectations of others reduces role ambiguity and enhances job satisfaction (Jackson & Schuler, 1985). Likewise, research on mentoring demonstrates that exposure to the views and expertise of others reduces role ambiguity and enhances job satisfaction (Lankau & Scandura, 2002). Finally, role cognition innovation can reinforce the uniqueness of an employee’s role and identity, providing a unique view of the self within the workgroup (Swann, Polzer, Seyle, & Ko, 2004). To summarize, the literatures on meaningfulness of work, role clarity, and role identity provide support for expecting role cognition innovation to enhance job satisfaction. Thus, we propose a positive relationship between role cognition innovation and job satisfaction.

Proposition 4b: Innovation in role cognitions increases job satisfaction.

Role innovation and career success

Career success is defined as the real or perceived achievements that individuals accumulate based
on their work experiences (Hall, 1976). Consistent with previous research, we view career success as a multidimensional concept (Kirchmeyer, 1998) that includes subjective (intrinsic) elements and objective (extrinsic) elements (Seibert, Kraimer, & Liden, 2001; Turban & Dougherty, 1994). We separate our treatment of these two aspects of career success because prior research demonstrates that although these two aspects of career success are moderately related, they are different constructs (Bray & Howard, 1980). Subjective career success is an individual’s intrinsic feeling of personal career success and accomplishment, such as having a sense of value, status, and potential (Wayne et al., 1999).

Two rationales suggest that role cognition innovation should enhance subjective assessments of career success: broader understanding of personal contributions and career-planning opportunities. First, when broader organizational information is used for role cognition innovation, employees have more opportunities to make sense of how their personal work contributions support the goals and values of the larger organization (Weick, 1995). This in turn should help them construct the meaning of work so that it is more relevant to their own personal values, allowing them think of work as a positive source of personal identity (Stryker & Burke, 2000). Knowledge of the broader organization and how this fits with individual contributions should be self-reinforcing because it shows personal worthiness and contributions to the social system (Lin, Cook, & Burt, 2001). Second, viewing the job in the context of the broader organization helps enhance employee perceptions of career-planning possibilities and outcomes. As a result, feelings of personal control and perceptions of career potential outcomes should be enhanced (Greenberger et al., 1988; Spreitzer et al., 1997). Consistent with these arguments, research demonstrates that career planning is positively related to career satisfaction (Wayne et al., 1999). In sum, the information available through distal ties allows employees to reconceptualize their roles in more meaningful ways and to think more broadly about career opportunities, both of which should lead to more positive evaluations of their careers. Thus, we propose a positive relationship between role cognition innovation and subjective career success.

**Proposition 5a:** Innovation in role cognitions increases subjective career success.

Innovation in role sets should also have positive implications for subjective career success. When employees proactively change the quality and quantity of their work relationships based on distal ties (changing role set), they have better and more selective access to support and social capital from others (Lin et al., 1981b). As a result, role set innovation can be a source of psychosocial benefits (acceptance, friendship, counseling, role modeling) that enhances subjective perceptions of career success. Improved relationships at work can also enhance the employee’s sense of competence, identity, and effectiveness in a professional role (Ibarra, 1995). Examples include mentoring relationships (Higgins & Kram, 2001) and friendship networks (Krackhardt, 1990). For example, Lankau and Scandura (2002) demonstrate that individuals with mentors have a better understanding of relationships and higher satisfaction. Turban and Dougherty (1994) demonstrate a positive relationship between mentoring and perceived career success. Therefore, we posit a positive relationship between role set innovation and subjective career success.

**Proposition 5b:** Innovation in role sets increases subjective career success.

Objective career success is defined as assessment based on decisions made by others (salary increases, promotions, perquisites, etc.) (Wayne et al., 1999) and thus is more formal and tangible than subjective career success because it explicitly signals the employee’s
recognized value to the organization. Objective indicators of success include title, reserved parking, or a corner office.

Innovation in role cognitions based on strong distal and proximal ties increases role clarity, which can be motivating and lead to higher work effort. It can also allow the employee to "work smart" and invest effort in projects that are valued by the organization. Working hard and working on the "right" things enhances performance (Spreitzer et al., 1997). Accordingly, role cognition innovation based on strong ties, both distal and proximal, should enhance performance and result in better performance evaluations and better objective career success. In sum, we propose a positive relationship between role cognition innovation and objective career success.

Proposition 6a: Innovation in role cognitions increases objective career success.

The literature, however, does not support a main effect of innovation in role sets on objective career success. Instead, we propose an interaction effect where role set innovation enhances objective career success only when the distal ties are high in social credentials, which are defined as organizational "certification" of value (Lin et al., 2001). Those with high social credentials are recognized by others for their expertise, responsibility, and power. Thus, they influence decision making and the careers of others.

When an employee has strong distal ties with an individual who has high social credentials, the resources thus provided (access to information and third-party support) will have value that is recognized by others. In other words, acting on these resources is more likely to have positive implications for the employee's reputation and performance as assessed by others. This employee's role set innovation will have positive consequences for objective career success because the social credentials of the distal ties are recognized by others as positive. For example, if a loan analyst develops a strong tie to a successful sales vice president (high social credentials), the role set innovation should have positive career consequences (access to breaking news and high-quality information about career development and transfer opportunities, promotion potential, and access to external support).

There are at least three reasons why role set innovation based on ties with people with high social credentials can enhance objective career success. First, strong distal ties to powerful others increase access to the dominant coalition and opportunities for organizational advancement (Brass, 1984). This includes insider knowledge of and access to promotion opportunities (preferential treatment). Second, strong distal ties with those with social credentials should facilitate role set innovation in a manner that will be viewed positively by others who have power. Thus employees benefit from the position power of their contacts (Campbell, Marsden, & Hurlbert, 1986). Third, strong distal ties to powerful others should have positive reputation effects for the employee. For example, the person with high credentials can provide external support, such as recommending a promotion for the employee. Given the recommender's social credentials, supervisors should be more likely to listen and act on the recommendation. Similarly, strong ties with people possessing social credentials can enhance the employee's reputation by publicizing employee accomplishments and recommending special rewards (Aime, Meyer, & Humphrey, 2010). These behaviors represent political support that actively shapes reputation and career opportunities. Consistent with balance theory (Heider, 1958) and the baskin-in-reflected-glory perspective (Cialdini et al., 1976), support provided by those with high social credentials should have positive implications for objective career success because others will ascribe positive value to protégés (Kilduff & Krackhardt, 1994).
In contrast, role set innovation based on ties with an individual with low social credentials should have negative implications for objective career success because accessing information or trying to gain support from those who are not well regarded or not influential (weak social credentials) may damage the employee's reputation. For example, if a loan analyst develops a strong tie with an unsuccessful sales vice president (low social credentials), the role set innovation should have negative career consequences (access to dated or poor-quality information) and negative spillover effects. Likewise, if an employee engages in role set innovation and starts relying on someone with low social credentials (a clerical or technical employee in a peripheral area of the organization or someone with a bad reputation), the connection will not be viewed positively by decision makers or by the dominant coalition. In sum, we propose an interaction effect where social credentials change the nature of the relationship between role set innovation and objective career success, with positive implications for high social credentials and negative implications for low social credentials.

Proposition 6b: Social credentials will interact with innovation in role sets to influence objective career success such that the relationship is positive when social credentials are high and negative when social credentials are low.

Discussion

Our theory aims to make several contributions to the study of role innovation. First, the existing literature on role innovation emphasizes individual-level predictors such as employee characteristics and job discretion (Morgeson & Humphrey, 2006; Nicholson & West, 1988). Prior research also appears to assume that individual role innovation can be aggregated from the micro level to the macro level to produce organizational-level innovation. Going beyond this past research, we stress the importance of structural factors that can influence role innovations. To our knowledge, no prior work considers embeddedness—an employee’s ties with others in the context of the larger social structure—as an explanatory mechanism that predicts role innovation and has subsequent implications for job satisfaction and career success. Thus, our theoretical model should have important implications for the role innovation literature because we specify causal influence mechanisms based on characteristics of employee embeddedness (personal persuasion, access to information, and external support) that predict different types of role innovation.

Second, our model should have theoretical implications for the job satisfaction (Weiss & Cropanzano, 1996) and careers (Wayne et al., 1999) literatures because we specify contrasting causal links between three different types of role innovation—role behavior innovation, role cognition innovation, and role set innovation—and the outcomes of employee satisfaction and career success. Finally, our model may have implications for the social networks literature as applied to management and organizations (e.g., Burt, 1997; Higgins & Kram, 2001) by explicating arguments for the interactive effects of proximal ties and distal ties on individual behaviors. Thus, differentiating proximal and distal ties as independent dimensions that also have potential interactive effects could enrich social network research. While we have specifically focused on individual role innovation in this paper and implications for an individual’s job satisfaction and career success, we believe future research can expand this work by exploring the implications of proximal and distal ties and their strength for workgroup creativity, innovation and performance. Additionally, it may trigger future research that explores how employee network structures may affect the relationship between employee mobility and organizational performance (Aime, Johnson, Ridge, & Hill, 2010; Wezel, Cattani, & Pennings, 2006). Our theoretical
model should have applied relevance to organizations that must cope with dynamic competition and the increased importance of employee initiative. By highlighting employee embeddedness and differential implications for proximal versus distal ties, the model and propositions should offer insights that managers can use to predict which employees are more or less likely to engage in role innovation. While role innovation may not always be wanted and will not necessarily add value to the organization, managers can apply the theoretical arguments behind the propositions to anticipate individual role innovation. The model should also allow managers to differentiate three different types of role innovation—role behavior, role cognition, and role set innovation—and how these role innovations are influenced by proximal and distal ties.

Another managerial implication of our theory building is the relevance of the causal influence mechanisms for employee development: strong proximal ties provide employees with resources that facilitate influence in the immediate workgroup; strong distal ties provide employees with resources that facilitate access to information and third-party support. For example, if managers want to enhance role innovation in general, they should encourage employees to expand and strengthen their proximal and distal ties so that they have influence in the workgroup and also have outsider information and support. If, however, managers are especially interested in innovation in role sets, they need to be cautious in the messages they send to employees; strong proximal ties will cause those in the immediate workgroup to create barriers that weaken the positive effects of strong distal ties on role set innovation. Accordingly, a richer and more nuanced view of embeddedness emerges when the interactive effects of strong distal and proximal ties are considered simultaneously.

Managers can also use the model to develop a more fine-grained view of how employee embeddedness and role innovation influence job satisfaction and career success. This reinforces one of the foundational arguments we drew on in the beginning of the paper—that roles are claimed by employees and enacted into positions (Baker & Faulkner, 1991) such that enacted roles become resources that allow employees to enhance their job satisfaction and career success (Baker & Faulkner, 1991; Callero, 1994; Fine, 1996). For example, encouraging innovation in role behaviors and role cognitions should lead to enhanced job satisfaction, whereas encouraging innovation in role cognitions and role sets should lead to subjective career success. In addition, it might be especially important for managers to encourage high-potential employees to focus on role cognition innovation because there are strong theoretical arguments to expect that this will have direct and positive effects on objective career success indicators such as promotions and merit increases. Interestingly, although the popular press emphasizes the importance of building a large network, our reading of the research literature indicates that a simple focus on role set innovation is not likely to lead to objective career success. Instead, both managers and employees should be aware that the social credentials of those in the role set will determine whether innovations have positive or negative implications for objective career success.

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