

Towards a Network Perspective on Change Readiness

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This article explores the conceptual linkage between social capital and individual change readiness. Using a social network paradigm, structural and relational embeddedness are explored as mechanisms explaining the origins of change readiness elements. Six propositions and two correlates are developed. Additionally, practical applications and practitioner implications are offered.

INTRODUCTION

Change is, perhaps, the one constant in modern organizations. This is most visible in business where changes in the environment collide with the competitive drive of profit seeking, generating pressures to innovate, adapt and paradoxically defend. Recognizing the pressures for and against change, scholars have extended inquiry into examination of forces for change. To this end, we have a better understanding of the change impact from globalization (Singh, Garg, & Deshmukh, 2008), government regulation (Calantone, Cavusgil, Schmidt, & Shin, 2004), technology change (Rapp, Trainor, & Agnihotri, 2010), innovation (Guimaraes, Brandon, & Guimaraes, 2009), business process change (Cheng & Chiu, 2008), mergers and acquisitions (Van Dijk & Van Dick, 2009), and other change forces. It is generally understood that failure to keep pace with change is a path to business failure (Jensen, Werster, & Buddelmeyer, 2008). Even so, many change initiatives fail (Beer, Eisenstat, & Spector, 1990; Maurer, 2010).

Scholars have increasingly focused their attention on change processes and overall management of the change programme. This has led to the emergence of two interrelated research streams. The first stream, characterized by the work of Kotter and others (see Bridges, 1991; Cummings & Worley, 2005; Kotter, 2007; Kotter & Schlesinger, 2008), emphasizes change from a top-down, project model extending from Lewin's (1947) seminal work in which change programmes must succeed at three objectives. First, change programmes must unmake the ossifying elements of organizational process, structure and culture. Second, change programmes must successfully inject the change elements into the organization. Finally, the change programme must re-freeze the structures, processes and culture of the organization in such a way as to maintain the inserted change elements. Of particular interest to this paper is the nature of the

social elements of structure, culture and process that act as deterrents to change while paradoxically also serving as the tools for enabling change.

The second stream of change research focuses on select dynamics of change (see Armenakis & Harris, 2009; Dent & S.G., 1999; Ford, Ford, & D'Amelio, 2008; Holt, Armenakis, Field, & Harris, 2007; Jaros, 2010; Oreg, 2003). Research in this stream examines how individuals and groups make sense of change forces, and develop attitudes and sentiments, thus shaping how the individual responds to change programmes. Beginning with very early studies of resistance to change (Coch & French, 1948; Lawrence, 1954), this area has come under increasing scrutiny due to lack of clarity over the terms and use at multiple levels of analysis (Dent & S.G., 1999; Ford, et al., 2008). However, much work has come from operationalizing resistance as an individual psychological variable (Frustr & Cable, 2008; Lines, 2004; Oreg et al., 2008). Other efforts have examined the related constructs of willingness and openness to change (Chawla & Kelloway, 2004; Miller, Johnson, & Grau, 1994; Wanberg & Banas, 2000), cynicism about change (Reichers, Wanous, & Austin, 1997; Stanley, Meyer, & Topolnytsky, 2005), and commitment to change (Bernerth, Armenakis, Field, & Walker, 2007; Coatsee, 1999; Hersocovitch & Meyer, 2002; Jaros, 2010; J. P. Meyer, Srinivas, Lal, & Topolnytsky, 2007).

More recently, theory development, scale development, and cross cultural validation efforts have been directed toward the readiness to change construct (Armenakis & Harris, 2009; Cunningham et al., 2002; Desplaces, 2005; Eby, Adams, Russel, & Gaby, 2000; Holt, et al., 2007; Jones, Jimmieson, & Griffiths, 2005). These approaches have primarily studied change readiness at the individual level. Holt et al. (2007), states that “readiness can be defined as a comprehensive attitude that is influenced simultaneously by the content (i.e., what is being change), the process (i.e., how the change is being implemented), the context (i.e., the circumstances under which change is occurring), and the individual (i.e., characteristics of those being asked to change/be involved)” (p. 326). As such, readiness refers to the extent to which individuals and groups are cognitively and emotionally ready to address the change request and process (Holt, et al., 2007). We propose that the construct of readiness also applies to individuals in networks, the networks themselves, and the processes between them. We further propose that use of change readiness, as opposed to resistance, commitment, or openness, more closely aligns with an important trend in positive psychology and organizational behavior (Cameron, Dutton, & Quinn, 2003; Luthans, 2002; Seligman & Csikszentmihalyi, 2000), and more specifically in positive organizational change (Cameron, 2008).

While the two approaches complement one another by emphasizing both macro and micro perspectives on change (Armenakis & Harris, 2009), both recognize social processes at play in organizational change. Macro theorists discuss the importance of establishing change agents, obtaining buy-in from influential organizational members, and helping change transitions through training and modeling (Kotter, 2007). Similarly, change readiness scholars are increasingly examining how social support influences readiness for change (Cinite, Duxbury, & Higgins, 2009).

Although there is an implicit acceptance of relational and structural network elements in existing change theory, there is little scholarly inquiry examining organizational change from a social network perspective. Where such inquiry exists, it uses network modeling as an explanation for diffusion (Suarez, 2005) or it uses organizational change as an explanation for alterations of the social structure of an organization (Burkhardt & Brass, 1990). In other cases, the perception of social support is used to explain aspects of organizational change (Cinite, et al., 2009). The purpose of this paper is to introduce and develop a social network paradigm in organizational change research. It is our belief that such a perspective complements and informs the two change research streams. We ground our approach in the change readiness research perspective, although we identify points of intersection with change programme research. Our approach uses social network theories of structural and relational embeddedness as mechanisms explaining the social origins and content of individual change readiness elements. The remainder of this paper follows in three segments. First, we begin with a discussion of change readiness and identify elements of existing change readiness research which have an implicit social process element. Second, we offer a review of social network theories of structural and relational social capital and propose linkages between manifestations of social capital and change readiness. Finally

we suggest implications and applications of our propositions affecting managers, practitioners and researchers of organizational change.

CHANGE READINESS

The construct of change readiness has been developed over many years of research, most prominently coming from the work of Armenakis and Harris (for a recent review of the change readiness theory, see Armenakis and Harris, 2009). In their research, Armenakis and Harris (2009) define change readiness as “the cognitive precursor of the behaviors of resistance to or in support of organizational change” (p. 132). They posit five dimensions (or decision conditions) that an individual addresses when deciding whether to resist or support change. These five dimensions include: discrepancy, appropriateness, efficacy, principal support and valence. As previously noted, numerous studies have examined change readiness. However, this model proposed by Armenakis and Harris (2009) provides both theoretical and practical relevance.

Discrepancy involves recognition of gaps between the current state and an ideal state. To this end, the discrepancy condition is consistent with identifying the need for change in Kotter’s (2007) work. Once a discrepancy has been identified and a change initiative suggested, individuals decide on the *appropriateness* of the initiative. That is, whether the proposed change initiative addresses the discrepancy in a useful manner. Should an appropriate change initiative be identified, the individual then assesses whether the organization (and indeed the individual themselves) has the appropriate *efficacy* to complete the change initiative. This efficacy check examines appropriate capabilities and resources given the constraints caused by the discrepancy. Even if the efficacy check should pass, members of organizations inherently understand that no proposed initiative can succeed without appropriate *principal support*. While this principal support must come, at least in part, from people occupying positions of vertical organizational power, Armenakis and Harris also observe that principal support should come from horizontal opinion leaders who have a supernormal ability to influence their peers. Assuming that efficacy and principal support both support the change initiative, the individual then assesses the *valence*, or personal outcomes, from the change initiative. Where the first four decisions involve organizational issues and outcomes, the valence question queries, “what’s in it for me?”

Assuming the five questions have been answered in an affirmative and positivistic manner, the individual is likely to be change ready and engage in behaviors supporting change. Conversely should the conclusions be negative, the individual is likely to resist the change initiative. There are factors which shape the change readiness decision process either by directly impacting one (or more) decisions, or by moderating the way a decision impacts the change readiness conclusion (Walker, Armenakis, & Bernerth, 2007). Armenakis and Harris (2009) argue that these factors represent the intriguing next steps in understanding change readiness. They offer several suggestions as factor sources, including individual and organizational characteristics such as openness, organizational context such as perceived organizational support (Self, Armenakis, & Schraeder, 2007), leader-member exchange (Mehta, 2009), and additionally conditions external to the organization, such as national culture (Oreg, et al., 2008).

A Social Context for Change Readiness

While the change readiness decision matrix proposed by Armenakis and Harris represents an individual’s evaluation of change, there are a number of reasons to conclude that social forces shape, influence and determine aspects of the individual’s change readiness conclusion. Van Dijk and Van Dick (2009) observe that “resistance to change is a socially constructed phenomenon that is generated and defined through interaction” (p. 142). They further note that change initiatives involve change agents acting on change recipients, indicating a social exchange process in the change programme. A social exchange framework is further illustrated by Armenakis’ and Harris’ (2009) inclusion of opinion leaders and Kotter’s (2007) observation that influential others must be converted into the dominant coalition. Finally, emerging research in this area suggests that perceived organizational support affects the individual’s evaluation of valence (Cinite, et al., 2009; Singh, et al., 2008). Collectively, these imply that

the individual's conclusion to support or resist change is molded by their interactions with others and not exclusive to the change agent – change recipient dyad.

A second reason to suspect a linkage to social network theories and organizational change theories lies in the nature of learning implicit to the change readiness decision. Individual consideration of the change readiness decisions proposed by Armenakis and Harris (2009) necessitates information acquisition. While their research explicitly recognizes that each individual has a starting disposition serving as a basis for his or her change readiness decisions, their research implies that these decisions can be shaped through information exchange. Armenakis and Harris suggest that direct involvement of individuals in the change process, the experiential aspect, augments their ability to decide in favor of change readiness. Within the various change theories, the importance of communication networks predominates. Kotter (2007) observes that change leaders, in their attempts to positively bring about change, should “use every possible channel, especially those that are wasted on nonessential information” (p. 100). Armenakis and Harris (2009) similarly observe the importance of information management and diffusion practices as methods to influence positive change outcomes. In these cases, although the ultimate readiness decision lies in the individual, the inputs shaping that decision are influenced through social exchange within the organization.

A third reason to suspect a linkage between social network theories and organizational change theories involves the multi-level context which underlies change readiness research. Beyond personal identification, Armenakis and Harris (2009) observe that social differentiation, or group identification, plays a role in change readiness. The individual's membership in groups within the organization shapes his or her workplace identity. Therefore, when change initiatives threaten social order, the individual's change readiness response will incorporate these group identity crises. Van Dijk and Van Dick (2009) concur, observing that “change has the potential to negatively impact the social component of an employee's work-based identity” (p. 146). To the extent that a group-level identity is salient, individuals within the group will interpret the consequences of change initiatives to that group similarly. This group level component of change readiness is expressed, but not explored in Holt and colleagues (2007), who suggest the existence of individual, group and organizational dimensions of change readiness.

Lastly, recent research on change readiness explores the dyadic exchange between leaders and followers (Mehta, 2009; Self, et al., 2007). While these leader-member effects have not yet found support in testing, these researchers argue that other multi-level phenomena (such as core versus periphery concerns that we address later) likely complicate the effects of local leader-member dyads (Self, et al., 2007). It seems the individual change readiness decision is made within the context of a multi-level relationship that includes dyadic, group or organizational levels. Taken together, the current state of organizational change research seems naturally disposed towards social network analysis and its theories. In our next section, we review social network analysis and its underlying methodologies and theories demonstrating where extant social network research informs organizational change research. From these linkages, we advance testable propositions linking social network and organizational change theories.

SOCIAL NETWORKS ANALYSIS

Social network analysis (SNA) refers to the body of research examining social exchanges of interdependent individuals within networks (Borgatti & Foster, 2003; Brass, 1995; Brass, Galaskiewicz, Greve, & Tsai, 2004). SNA should not be confused with the more recent phenomenon of social networking technologies like Facebook. While both share an interest in the interconnectedness of people, SNA predates social networking by several decades (Kilduff & Tsai, 2003; Scott, 2000). SNA consists of several key components that serve as tenets of this discipline, including various modeling tools, units of analysis, and social capital. Table 1 illustrates the various aspects of SNA as they relate to the construct of change readiness. Of particular note is the fact that the application of SNA to the change readiness construct can be shown to be both theoretical and practical in nature.

TABLE 1
THE APPLICATION OF SOCIAL NETWORK ANALYSIS TO CHANGE READINESS

Components of SNA	Application to Change Readiness
<p>Modeling Tools</p> <p style="padding-left: 40px;">Visual Depiction</p> <p>Qualitative Analysis of Social Networks</p> <p>Statistical Analysis /Hypothesis Testing</p>	<p>Theoretical: Allows visual display of complex interrelated theory and processes across time and space Practical: Can show diagnostic gaps within or between groups before and after an intervention</p> <p>Theoretical: Allows grounded theory from multiple methods to be established Practical: Can be used to differentiate characteristics of groups which render them more or less ready to change</p> <p>Theoretical: Allows for testing of individual-level and contextual variables as predictors of readiness Practical: Can be used to determine utility of an intervention or method on basis of individual or group readiness</p>
<p>Units of Analysis</p> <p style="padding-left: 40px;">Actors</p> <p style="padding-left: 40px;">Multiple Levels</p> <p style="padding-left: 40px;">Interconnectedness</p> <p style="padding-left: 40px;">Networks</p>	<p>Theoretical: allows research at the individual psychological level Practical: Can investigate, isolate, and apply indicators of individuals proven to be more or less ready to change</p> <p>Theoretical: Allows multilevel research using same method Practical: Can examine effects of groups on actors, and actors on groups</p> <p>Theoretical: Allows investigation into the type of relationships and types of actors that predict readiness Practical: Can be use to determine possible readiness contagion pathways and processes</p> <p>Theoretical: Allows for investigation of formal and informal, and external relationships critical to promotion of readiness Practical: Can be used to determine how interventions can socially couple individuals or groups of individuals to promote readiness</p>
<p>Social Capital</p> <p style="padding-left: 40px;">Structural</p> <p style="padding-left: 40px;">Relational</p> <p style="padding-left: 40px;">Symmetry/Balance</p>	<p>Theoretical: Allows for testing efforts of formal relationships and hierarchy as predictors of readiness Practical: Can be used to determine and deploy change agents, idea champions, top-down, bottom-up, and diagonally</p> <p>Theoretical: Allows for examination of official relations in creating and promoting readiness Practical: Can be used to determine which kinds of relationships and actors might bolster readiness</p> <p>Theoretical: Allows for testing of homogeneity, power, equity, and differential information as critical variables in predicting readiness Practical: Can be used to determine what kind of exchanges and expectations optimize change readiness</p>

SNA includes methodologies for data collection (Marsden, 1990), modeling tools enabling visual depictions and qualitative analysis of social networks (Borgatti & Everett, 2006; Borgatti, Everett, & Freeman, 2002; Scott, 2000) and statistical analysis techniques for hypothesis testing (Borgatti, 2002; Borgatti, Carley, & Krackhardt, 2006; Dekker, Franses, & Krackhardt, 2003; Krackhardt, 1987, 1988). SNA researchers rebuff the argument that SNA exists as methodologies bereft of theory (Borgatti & Foster, 2003), and suggest rather that the field contains stand-alone theories related to patterns of social exchange (Kilduff & Tsai, 2003). Additionally, Kilduff and Tsai (2003) observe that SNA has the potential to extend and complement behavioral theories grounded in social exchange.

The most basic unit of analysis in SNA involves the individual actor. SNA spans across traditional research levels of analysis (Contractor, Wasserman, & Faust, 2006) and the actor in a given study might be an individual (Bowler & Brass, 2006), a group (Tsai, 2001), an organization (McEvily & Zaheer, 1999), or even a nation (Ward, 2006). For purposes of this paper, we will use the term actor to refer to the individual. As change readiness research is grounded at the individual level, we advance our discussion accordingly.

An SNA agenda focuses on the interconnectedness of human relations. It is not merely the actors that are of interest but also the relationships or ties between an actor and his or her connected others (each of which are in turn actors). The ties between these actors are characterized or modeled by various types of social exchange channels. The most frequently modeled channels for individual-level SNA are *friendship* and *advisory* networks. A tie is considered to exist if an actor indicates that they engage in the relevant type of social exchange with another actor in the network. That tie is reciprocated if the other indicates a similar linkage to the originating actor.

The final element of analysis is the network itself. The network is the population of actors relevant to the study as modeled by the social exchange channel of interest. Typical organizational studies use the organization itself as the relevant network (Bowler & Brass, 2006). While some researchers might suggest extending the change relevant network to include key extra-organizational stakeholders or external advisors (McDonald & Westphal, 2003), such an extension is beyond the scope of this paper. Our interest lies in understanding social context for individual change readiness, so instead we focus on the social network most relevant to organizational change. Thus, the network of interest is confined to the members of the organization directly facing a change initiative.

SNA enables examination of the actor and his or her *ego* network, the actor's direct-tie to others, and permits comparison to other ego networks throughout the network. This includes one-way and reciprocated relationships across various exchange channels that enable the visualization of individual, dyadic, group (or clusters) and whole network properties. SNA is inherently multi-level and enables simultaneous control of and testing for multiple levels of relationships (Contractor, et al., 2006). Similarly, as most SNA studies measure more than one exchange channel (e.g. friendship and advisory), an SNA study can proceed along multi-channel and multi-level paths (Moran, 2005).

Perhaps the most widely recognized contribution of the SNA paradigm is the conception of social capital (Coleman, 1988). Social capital refers to the array of benefits a person derives from his or her social contacts. Some work-related benefits of social capital involve finding a job (Granovetter, 1973), improved job performance (Moran, 2005), and promotions and career advancement (Mehra, Dixon, Brass, & Robertson, 2006). The wide range of benefits attributed to aspects of social capital and the ubiquity of the term might lead to the erroneous conclusion that social capital is a singular concept and thus more is always better. Within the SNA paradigm, however, social capital is a blanket term capturing a number of potential social benefits such as information novelty, trust, assistance, and access to resources. Benefits accrue from different social configurations, and benefits arising from one social configuration may require a trade-off or loss in some other benefit. This point is captured best in Burt's (1997) thesis regarding the contingent benefits of social capital. Social capital benefits arise from structural and relational sources. Structural social capital accrues based on the social structures surrounding the individual, and relational capital accrues from the quality of relations the individual maintains.

SNA researchers generally recognize that the type of social capital and benefits arising are themselves contingent upon the type of relationship network we examine. Specifically, the social capital benefits (structural and relational) from an advisory network may be quite different from the social capital benefits arising from a friendship network (Verbeke & Wuyts, 2007). While the same terminology (e.g. centrality, brokerage, etc.) is used in describing both social structures and relational elements, the type of resource traveling through the social exchange differs in friendship and advisory networks. Friendship networks provide social support and are more likely to involve helping relations related to current needs (Bowler & Brass, 2006; Riordan, Griffith, & Weatherly, 2003). Advisory networks provide information and are more likely to involve help in achieving advancement needs (Brass, 1992; Brass & Burkhardt, 1993; Ibarra, 1993).

Additionally, there are different expectations related to symmetry and balance in friendship and advice networks (Cartwright, D. & Harary, 1956). We expect those whom we consider friends to likewise consider ourselves to be their friends (symmetry). We further expect that our friends should be friends, or conversely that my friend's enemy should be my enemy (balance). We typically do not have such expectations in advisory networks. First, advisory relations (such as a mentor – protégé) are rarely symmetric, advice flows from the mentor to the protégé. Second, there is rarely an expectation for balance in advisory relations (e.g. that the person who comes to me for advice should also go to the person I go to for advice). Ultimately, this is due to our expectations of equality in friendship and hierarchy in advice. Since different configurations of social capital provide differential benefits, we develop our propositions accordingly. Following the general direction of SNA research, we differentiate between structural and relational configurations. For each area we offer consideration to the types of benefits that friendship and advisory networks provide respectively. Consistent with the contingent nature of social capital, we offer a general proposition along with an alternative one that is to be applied under specific circumstances. We begin our discussion with structural configurations and then progress to relational configurations.

Structural Configurations

Structural studies of social capital focus on the position an individual occupies within the network. Here the emphasis is on the various connections the individual has to others, the interconnections between those others, and the connection of those others in the network. The two most prominent sets of theories are those of *centrality* and *constraint*. Centrality represents how connected the individual is to others (Borgatti, 2005; Borgatti & Everett, 2006; Freeman, 1979) while constraint represents the interconnectedness of the others directly connected to the individual (Burt, 2001; Coleman, 1988).

Centrality studies are among the most populous of SNA studies. They emphasize how connected the individual is to the others in the network. While the classic definition is composed of several different measures of connectedness (Freeman, 1979), in recent years centrality is typically considered synonymous with *degree-centrality*. Degree-centrality represents the number of ties that an individual has (Freeman, 1979). From the perspective of the individual, degree-centrality is determined by the ego network, the others with whom the individual has direct interaction with (e.g., friends, advisors, protégés). Because the ego network consists of the individual's direct connections to the organization, it is typically the one most influencing the individual's perception of the workplace and his or her work identity.

People who have a high *in-degree friendship centrality* have many friends in the organization. These are individuals for whom many others have indicated they harbor feelings of friendship. Such individuals receive a number of social support-related benefits in organizations. They are very likely to be the recipients of helping behaviors (Bowler & Brass, 2006). They have others offering assistance in coping with task-related stresses (Baldwin, Bedell, & Johnson, 1997). They have friends who help them finish tasks and get things done (Mehra, et al., 2006). At least partially due to their social capital, these highly-central friends tend to be high performers (Mehra, et al., 2006), are promoted faster (Brass, 1984) and exert influence over their colleagues (Ibarra & Andrews, 1993).

From a change readiness perspective, such individuals are likely to be engaged and proactive in organizational activities and more likely to feel a sense of belonging to their organization (Morrison,

2002). We believe that this should leave them more aware of discrepancies and more committed to helping the organization complete its change initiatives.

Advice/Friendship Centrality and Change Readiness

Individuals who have high *in-degree advice centrality* are those whom many others go to for advice. In SNA research, in-degree advice centrality is considered an indicator of expert power (French & Raven, 1959) and advice-central individuals are regularly found to be more influential than their less central colleagues (Brass, 1992; Brass & Burkhardt, 1993; Kilduff & Krackhardt, 1994; Krackhardt, 1990). Here, the social measure of centrality represents others' recognition of the individual's human capital. The expertise of central advisors suggests that they know more and know things sooner than many of their organizational counterparts. Further, their overall influence in the organization makes it likely that they can influence change initiatives in such a way so as to not reduce (and possibly increase) their personal power and status.

In the case of both friendship and advice centrality, we propose that the highly central individual is likely to have a higher change readiness than less central others. Friend-central individuals will have a greater social support network enabling them to more rapidly deal with the stresses of change and they will more likely feel compelled to help their organization complete a change. Advice-central individuals, by comparison, are more likely to perceive a discrepancy, are more likely to identify initiatives, and are more likely to influence others in the appropriateness of the initiatives they support. While the reasons differ, our expectations are the same leading us to believe that:

Proposition 1: Highly central others in both the advice and friendship networks will have greater change readiness than their less central colleagues.

There is, however, an important corollary related to highly central individuals. The arguments we presented for proposition one assume that the highly central actor perceives the change readiness choices in a manner consistent with the change initiative. Even with some minor differences, such central individuals are likely to be supporting of change and thus more change ready. If these highly central individuals are not change ready, the change agent should proceed with caution. Regardless of their change readiness, highly central individuals in the advice and friendship networks exert greater than normal influence on their colleagues. Their attitudes and perceptions have a broader audience than less-central others and the factors driving their centrality give them leverage to assert those perceptions upon their more extensive ego network. Simply stated, these are the opinion leaders that Armenakis and Harris (2009) and Kotter (2007) reference. Thus, when highly central individuals are strongly in favor of – or strongly opposed to – change initiatives, their attitudes about the change initiative will affect those directly linked to them. We therefore expect:

Proposition 1a: When highly central others in both the advice and friendship networks have extremely high or low change readiness, there will be spillover change resistance effects amongst the others in their ego network.

Closeness Centrality and Change Readiness

While degree centrality is the most frequently used centrality measure, Freeman (1979) identifies another type of centrality which we believe is relevant to change initiatives. Where degree centrality examines the links an individual has directly to others, *closeness centrality* assesses the reachability an individual has to all others in the network. Closeness centrality can be conceived as the number of steps required for an individual to reach all others in the network. This concept is illustrated through the pop-culture game “six degrees of separation,” in which a person tries to link themselves or some popular individual to another popular individual (e.g., Kevin Bacon) in six or fewer degrees (where a degree is a link in a social network). Some people can link to the target in fewer degrees than others, suggesting that those people are sociometrically closer to that target.

In an organizational context, if we were to sum up the degrees needed for an individual to reach every other in the organization, we have assessed the closeness of that person. If we repeated the endeavor for all N persons in the organization, we could compare closeness and identify which actors reach the most others over the fewest degrees. These highly close individuals represent the organizations core, while those with low closeness represent the periphery of the organization. From an advice network perspective, those with high closeness are the advisors of highly central advisors. Similarly, those with high friendship closeness are those who are friends with highly central friends. Those who maximize closeness are typically linked to two or more highly central individuals who are themselves otherwise not directly linked. Similarly, when two highly central individuals are themselves directly linked, they are likely to be a part of the organizational core.

Individuals occupying core positions also tend to occupy hierarchical positions of power within the organization. Ultimately, those occupying the organizational core have the most power in the organization either through formal hierarchical positions or through informal expertise or charismatic influence. Additionally, because of their reachability, their perceptions disperse farther and faster than do those in the periphery (Borgatti, 2005). Because of this, highly close individuals are ideal choices for both communicating and modeling change – their messages speak the loudest and travel the farthest. This is likely true, regardless of the change readiness of the highly close individual. As with highly central others, the highly close individual will more strongly affect those they directly link with than less close individuals. However, the diffusion effect of highly close individuals is greater than that of highly central individuals. While a highly central individual affects those connected to them, the highly close individuals' perceptions spill-out farther (Westphal, Seidel, & Stewart, 2001). This is because those directly linked to highly close individuals have greater influence due to their basking in the reflected glory of others (Cialdini, Borden, Thorne, & Walker, 1976). Thus, the highly close individual will affect the change readiness perceptions of those with whom they connect and those connections will further affect those two (or more) degrees away from the highly close person. To this end, we expect:

Proposition 2: Individuals close, or near, to highly close others will have change readiness levels similar to that of the highly close other.

Constraints in Friendship Networks and Change Readiness

For purposes of this section, we refer entirely to friendship networks. Because individuals do not have the same expectations for reciprocity and balance (Cartwright, D. & Harary, 1956) in advice networks as they do in friendship networks, it is unlikely to observe a fully closed advice cluster. A closed cluster, or sub-network within a larger organizational network, occurs when the others with whom an individual is connected are themselves completely and exclusively interconnected. This is the area of research Coleman (1988) focused on in his work on social capital. The closed cluster phenomenon usually occurs in friendship networks (Kilduff & Tsai, 2003). Individuals in closed clusters typically have a high level of trust and a high level of reliance upon their closed-cluster contacts. Additionally, since the actions taken by any member of a closed cluster are likely to be observed and communicated across the closed cluster, such clusters tend to elicit a high level of social control. The individual members of the cluster are very likely to exhibit high levels of social cohesion and are unlikely to deviate from established group norms (Burt, 2001; Coleman, 1988; Krackhardt & Kilduff, 2002).

From a change readiness standpoint, members of closed clusters are likely to share similar views. Should one of them (a) view the change as needed, (b) consider the initiative appropriate for the discrepancy, and (c) perceive the organization as efficacious in implementing the initiative, the remainder of the cluster likely will perceive it the same way. Hearing his or her thoughts on change readiness echoed by the other members of the closed cluster, the individual will see little reason to doubt their conclusion and will likely see little reason to alter their change readiness stance without a substantial system shock (Coleman, 1988; Krackhardt & Kilduff, 2002). Because of this, we expect that:

Proposition 3: Members of closed clusters will have less variance in their aggregate change readiness levels than will members of less closed (or open) clusters.

Structural Holes and Change Readiness

Where the closed cluster develops from Coleman's work, Ron Burt has been the most influential developing the idea of open and unconnected contacts (Burt, 1992, 1995). Burt defines the individual who brokers the connection between two or more otherwise unconnected individuals as bridging the *structural hole* between disparate groups. Structural hole theory relates to the efficiency of resource management in social contacts. Every relationship an individual maintains takes time commitment, and the time investment in a relationship should be commensurate with the benefits derived from the relationship (Burt, 2002). When an individual has a relationship with two others and those others are themselves similarly linked, the benefits obtained from one relationship are duplicated in the second relationship. Based upon structural hole theory, the costs of maintaining redundancies exceeds the benefits which accrue from them.

Where benefits from closed clusters involve trust and social conformity, the benefits of bridging ties involve adaptive capacities. By the nature of their position between otherwise disconnected groups, one who bridges straddles two or more disparate social networks. The occupant of this structural hole is privy to information coming from two or more channels in the organization. These *structural hole brokers* learn faster (Borgatti & Cross, 2003; Tsai, 2001), generate more creative innovations (Perry-Smith & Shalley, 2003), and generally perform better (Moran, 2005) than those whose ego networks contain semi-redundancies.

From a change readiness perspective, structural hole brokers are likely to have earlier awareness of discrepancies than those in less brokered positions. Given this likelihood they are expected to understand the appropriateness of an initiative and they are rapidly able to evaluate the organizations ability to respond. *Ceteris paribus*, the structural hole broker is better positioned to perceive the need for change and thus less likely to resist change. To this end, we expect:

Proposition 4: Individuals occupying structural hole positions will have higher levels of change readiness than those in more closed networks.

As with our proposition regarding centrality, there is an important caveat regarding structural hole brokers and their change readiness. While we believe that these individuals will usually be more change enthusiastic than those in more redundant ego networks, if the structural hole broker exhibits change resistance, the change agent should take caution. Occupants of structural holes benefit from rapid information presentation. They tend to see more disparate pieces of information and they are in the position to synthesize this information and to choose what (and to whom) information gets passed. Because of this, structural hole brokers are better positioned to determine appropriate change initiatives – assuming they possess a requisite level of expertise. Additionally, the structural hole broker is not constrained by the need for perceptual similarities to their contacts as is the closed-cluster individual. To this end, we expect that:

Proposition 4a: Change resistance from structural hole brokers presents greater problems with the change initiative than does resistance from individuals in redundant ego networks.

Relational Capital and Change Readiness

Having discussed our expectations regarding structural aspects of social capital, we turn to an examination of relational capital. As discussed in proposition four, maintaining relations with others takes time. SNA researchers have long recognized that, in managing the time efficiency of relations, individuals can choose to have many weak relationships or few strong relationships. Essentially as the number of relations increases (degree centrality), the strength of each of those relations typically declines. There are

advantages to strong and weak ties. In an employment context, weak ties tend to be more beneficial in terms of finding new jobs (Granovetter, 1973) and negotiating better hiring packages (Brown & Konrad, 2001). There seems to be little evidence, from a change readiness standpoint, that an individual's weak ties would provide significant advantages beyond that addressed in our degree centrality proposition (P1).

We turn, instead, to the nature of strong ties. Strong ties are those that are reciprocated and close (Hansen, 1999). In an organizational context these are trusted confidants, collaborative partners, and the people we turn to for social support when dealing with adversity (Bowler & Brass, 2006). Where an individual might be guarded with an acquaintance or lesser tie, they are more likely to be candid in their private discussions with strong ties (Kilduff & Tsai, 2003). Strong ties tend to share similar views (Scherer & Cho, 2003) and so when one has yet to develop an opinion, he or she is likely to refer to a strong tie and adopt that opinion about the change issue (Suarez, 2005). Because of this we expect:

Proposition 5: An individual's change readiness is likely to be more similar to that of their strong friendship ties than that of others in the organization.

We defined a strong tie as one in which the friendship levels were strong and reciprocated. In earlier discussions of the differences in advice and friendship, we observed that expectations of reciprocity and balance do not manifest the same in advisory relationships as they do in friendship relationships. Therefore, while strong advice relationships appear throughout an organization, it is the asymmetry that generally explains the strength of the relationship and the outcomes associated with those relations (Bowler & Brass, 2006).

If we viewed two individuals who exhibit a strong one-way advice relationship, we have identified a likely mentor-protégé relationship. The advice seeker (protégé) goes to the advisor (mentor) for advice, but the mentor does not return advice seeking activities towards the protégé. Since these advice relationships focus on work and career related advice, they logically include discussion of change initiatives. Since the nature of advice flows in one direction, the influence on change readiness likely does as well (Zagenczyk & Murrell, 2009). The protégé is expected to view organizational change similarly to that of their mentor and, should their positions differ, the protégé is more likely to shift towards the position of the mentor than vice-versa (G. Meyer, 1994). To this end, we expect that:

Proposition 6: Individuals are likely to have similar change readiness levels as those they seek advice from, particularly when the advice seeking relationship is highly asymmetric in a protégé-mentor context.

DISCUSSION

We have presented a series of arguments linking a SNA perspective to change readiness theory. We have discussed social capital in a structural and relational context and advanced six propositions and two corollaries relating to expected change readiness outcomes. We suggest that change readiness (or reluctance) diffuses through an organization in a contagious fashion. Certain individuals are more likely to be carriers of readiness (or reluctance) and certain individuals when infected are more likely to accelerate the transmission of readiness (or reluctance). This contagion metaphor is not uncommon in SNA research where attitudes, perceptions and practices travel through a network in a predictable and logical (from a network theoretical context) fashion (G. Meyer, 1994; Scherer & Cho, 2003). The contagion metaphor also fits with Armenakis and Harris (2009) terminology regarding change readiness. They explicitly use medical terminology regarding diagnosing discrepancies and applying appropriate treatment interventions. In their discussion of making change work, they reference diffusion practices. While their focus is largely on communication and involvement, such focus complements and supports our own arguments. Where they discuss the medium of diffusion (e.g., involvement, modeling, communication), we discuss the mechanisms by which the diffusion occurs (e.g., structural and relational capital).

Our SNA propositions are not stand-alone assumptions meant to replace current change readiness research. While we believe that a highly central individual will be more change ready than a non-central one, we see no reason to believe that an individual with an excessive change resistance disposition (Oreg, et al., 2008) would become giddy for change simply because they were central in a network. Similarly, while an individual brokering a structural hole is better positioned to view discrepancies and evaluate the appropriateness of initiatives, such a strategically advantageous position matters little if the human capabilities to conduct such an evaluation are not present in the broker. We place our propositions in context, such that the structural and relational capital influences on change readiness accrue after controlling for substantive individual differences. We seek to supplement, not replace.

Should our propositions hold true, there are five crucial implications for practitioners of change. First, *convert and co-opt highly central actors*. These individuals should be predisposed to support change initiatives. Consistent with Armenakis and Harris (2009), the involvement of these opinion leaders should positively affect their endorsement of the change initiative. Further, once on board, their ability to reach out to many others improves the efficiency of every action in the change initiative. Second, *if the core isn't ready, proceed with caution*. While those in the core may not be the ideal people to diagnose change, nor to suggest and implement initiatives, failing to garner their support leaves substantive obstacles to change on the table. As with central actors, the perceptions of these individuals affect others – however, unlike central individuals the core produce broader spillover. Third, *heed your brokers*. These individuals are positioned optimally to synthesize and extend organizational knowledge. While their perspective may not change the views of others, these are the people most likely to see what will (or will not) work. Ideally, involve them early to avoid planning out the wrong intervention. Fourth, when necessary, *penetrate closed clusters*. Recognize that closed clusters are difficult to transform and that they have minimal influence on the perceptions of those outside their cluster. If a closed cluster is already predisposed to support a change, leave it be. However, if a closed cluster is resistant to change – and its conversion is deemed crucial, realize that significant resources may be required to win the cluster over. Finally, recognize that *strong relations are more likely to cause contagion than weak ones*. When faced with uncertainty, people turn to those they trust most – close friends and trusted advisors. A change agent may find that involvement and communication alone are not enough to shift an individual's readiness when the change message is obstructed by a close relation. Change agents should develop strategies to win support from mentors and consider ways to convert friendship dyads when confronted with resistance.

We argue that SNA should precede a change initiative. The change agent who lacks an understanding of the social context of the organization is ill-equipped to enact change. While those in hierarchical positions of power may be easy to identify, horizontally-powerful opinion leaders don't appear on organization charts. While an examination of experiences might suggest which people have the human capital to benefit change diagnosis and implementation, a social context offers the ability to optimize project membership improving the change management process.

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