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LEADERSHIP IN TEAMS: INVESTIGATING HOW TEAM NETWORKS IMPACT THE USE OF INFLUENCE TACTICS

A DISSERTATION APPROVED FOR THE
DEPARTMENT OF PSYCHOLOGY

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Dedication

This dissertation is dedicated to the following people:

- My mother, Paula, who encouraged me to be a leader in whatever I did. She has always pushed me to be the best and fight for what I wanted, but also showed me how to be considerate and giving towards others.

- My father, Terry, who encouraged me to always be curious and never stop learning. He also showed me what hard work can accomplish and what you can achieve when you take risks and follow your passion.

- My brother, Eric, who has always cheered me on and made me laugh when I needed it. His own talents and accomplishments have been an inspiration, and he has become a great friend and partner in life.

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- The memory of my grandpa, Bernard, who always celebrated my accomplishments and made sure that I always knew how proud he was of me.

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Abstract

Influence is at the core of the leadership process, and although significant research has been conducted evaluating the use and consequences of different influence tactics, it has rarely been studied in the context of the team's social system. Based on prior research on contextual and team leadership, and the new emergent body of social network research, it is proposed that the social context that a leader operates in can provide important opportunities and restrictions on their actions, and specifically their use of different influence strategies. Study participants were placed in hypothetical teams that varied in three social network characteristics – size, connectedness, and embeddedness of relationships. Additionally, participants were given both an organizational restructuring task and innovation task with task-focused and people-focused problems. Results indicate that Yukl and colleagues' (Yukl, Seifert, & Chavez, 2008) 11 proactive influence tactics were used differentially across different social network conditions and across the different task domains and problem orientations. Based on these findings it appears that leaders do make an assessment of their social network and glean information from it on resource costs, interpersonal costs, and logistical opportunities of using each influence tactic, and indicators about relevant team processes that would impact tactic selection. Additionally, differences in tactic use across task domains and problem types indicate that leaders considered the appropriateness of the influence tactic to the given problem.

Leadership in teams: Investigating how team networks impact the use of influence tactics

Introduction

It is no secret that leadership research is well populated with theories and ways of approaching the topic. While the wide array of conceptualizations of leadership can pose challenges to making interpretations across sub-areas, there is a common thread tying the majority of approaches together – the concept of *influence.* Influence is at the heart of the leadership process in that leadership is defined as motivating others toward a common objective. Although all leadership involves influence in some manner, there are a number of ways that leaders may go about influencing others. While there has been extensive work on defining the different influence strategies that leaders use (Kipnis, Schmidt, & Wilkinson, 1980; Yukl & Falbe, 1990; Yukl, Chavez, & Seifert, 2005), and evaluating follower outcomes associated with different tactics (Brennan, Miller, & Seltzer, 1992; Higgins, Judge, & Ferris, 2003; Yukl, Kim, & Falbe, 1996), fewer studies have been conducted evaluating conditions in which leaders may use different strategies and the process they go through in determining which tactic to use (Steensma, 2007; Vecchio & Sussman, 1991). In fact, many influence tactic studies often treat them more like leadership styles than a unique decision made in specific contexts. Along these lines, several researchers have called for more research on the decision making process that leaders go through in determining their influence strategy (Jensen, 2007; Yukl, Seifert, & Chavez, 2008).

While influence is an inherently interpersonal process, it is rare for a leader and a single follower to exist in an exclusive exchange relationship. Rather, much of the work that leaders are influencing others to accomplish is conducted within a team. Thus, it

seems appropriate that in studying the process by which leaders choose strategies to influence others, we should consider the interpersonal context in which they are operating. Researchers of situational (Hershey & Blanchard, 1982; Blanchard, 2007; Thompson & Vecchio, 2009), contingency (Fiedler, 1967; House, 1971; 1996), relational (Graen & Cashman, 1975; Graen & Uhl-Bien, 1995; Uhl-Bien, 2006) and other "contextual" theories of leadership (Osborn, et al., 2002) have taken significant steps in advancing our understanding of how the context in which a leader is acting, particularly the "follower context", impacts their behavior. However, one quite relevant element of the context has often been ignored – the leader's team. When evaluating how leaders go about leading teams rather than single individuals, the original contextual theories, and the behavioral recommendations they make for leaders, may not be as valid.

Within the last decade leadership scholars have begun to look at how leadership occurs within teams. This includes research on how leadership traits and behaviors are related to team outcomes (Burke, Stagl, Klein, Goodwin, Salas,& Halpin, 2006), how the characteristics of teams and their functions shape the leadership process (Zaccaro, Rittman, & Marks, 2001), how leadership may be an outcome of processes within the team (Day, Gronn, & Salas, 2004), and even how leadership may be a collective team action in itself (Friedrich, Vessey, Schuelke, Ruark, & Mumford, 2009). An important conclusion drawn from this relatively new body of research is that leadership and the processes that occur within the team are a dynamic, multi-way relationship between the leader, team, and the team members with one another. One possible way of evaluating these complex interpersonal processes of the team, and their potential impact on the leader, is through the study of the team's network.

While there has been extensive work on the connections between leaders and followers and how that impacts leader behaviors (Schriesheim, Castro, & Cogliser, 1999), a more recent, and critical, development is the study of leaders within the team's specific network of relationships (Balkundi & Harrison, 2006; Boies & Howell, 2006). Rather than focusing on the dyadic relationships between a leader and individual followers, the network approach to studying leadership seeks to understand how leadership operates in the context of the pattern of relationships around them. The growth of research on networks, themselves, and social networks in organizations in particular (Kilduff & Tsai, 2006), has facilitated the emergence of research on leadership within networks.

Understanding leadership within networks has significant applied implications given that the vast majority of work that leaders do is in the context of a team of connected individuals. Most of the network research thus far has focused on how social networks in teams are related to team performance (Balkundi & Harrison, 2006; Brass, Galaskiewicz, Greve, & Tsai, 2004; Sparrowe, Liden, Wayne, & Kraimer, 2001), or how a leader's position in the network predicts their emergence and performance (Balkundi & Harrison, 2006; Mehra, Dixon, Brass, & Robertson, 2006; Neubert & Taggar, 2004). An important addition to this body of literature, which parallels a general increase in approaching leadership from a cognitive perspective (Lord & Emrich, 2000; Mumford, Friedrich, Caughron, & Byrne, 2007), is understanding how leaders process information about the network and how that may impact their behavior (Balkundi & Kilduff, 2006; Cross, Cowen, Vertucci, & Thomas, 2009). In the present effort, we seek to continue this

body of research on leader decision-making by evaluating their influence tactics in the context of different team networks.

Influence Tactics

Influencing others, much like leadership broadly, has been a topic of study for centuries, if not millennia. From Aristotle to Machiavelli to present day leadership scholars, the act of altering the attitudes and behaviors of others has been a popular point of evaluation. The last 30 years, however, has seen the most effort in the way of identifying specific tactics that the agents of influence use on their targets (Yukl, 2009). Yukl (2009) defines four broad types of influence tactics – impression management tactics, political tactics, proactive influence tactics, and reactive influence tactics. For the purpose of evaluating how a leader goes about influencing a team toward an objective, we have focused only on proactive influence tactics.

There have been two main bodies of research on proactive influence tactics, beginning with work done by Kipnis, Schmidt, and Wilkinson (1980) who evaluated managers' critical incident reports of their successful and unsuccessful attempts to influence their superiors, peers and subordinates. The authors used an inductive approach to identify 14 different categories of influence (e.g., rational discussion) which were then used to develop the Profiles of Organizational Influence Strategies (POIS) questionnaire. A sample of bosses, peers, and subordinates were given the survey to determine use of each strategy, and a factor analysis conducted on their responses resulted in an eight dimension taxonomy – rationality, exchange, ingratiation, assertiveness, coalition, upward appeal, blocking and sanctions. The taxonomy and the accompanying

questionnaire have found limited empirical support (Hochwater, Pearson, Ferris, Perrewe, & Ralston, 2000; Schiresheim & Hinkin, 1990; Yukl & Falbe, 1990).

Building on the taxonomy developed by Kipnis, Schmidt & Wilkinson (1980), Yukl and his colleagues focused on building a questionnaire that evaluated influence tactics from the target's perspective (Yukl, Lepsinger, & Lucia, 1991). The Influence Behavior Questionnaire (IBQ) included six tactics based on those included in the POIS that had found empirical support in subsequent studies. Rational persuasion, exchange, ingratiation, pressure, coalition tactics, and upward appeal were included in the initial survey. In addition to these six, the authors added items to evaluate four more tactics drawn from the literature on power and influence – consultation, inspirational appeals, personal appeals, and legitimating tactics. Initial studies of the IBQ found support for 9 of the 10 tactics (Yukl, et al. 1991, Falbe & Yukl, 1992). Upward appeals was ultimately combined with coalition tactics. Further research by Yukl and Seifert (2002) and Yukl, Chavez, & Seifert (2005) indicated that there were two more distinct influence tactics – collaboration and apprising. These two tactics were added to the IBQ and support for the reliability and validity of the current extended version with 11 influence tactics has been demonstrated (Yukl, Seifert, & Chavez, 2008). Definitions of each of the 11 tactics are presented in Table 1.

Studies of influence tactics have been conducted in a number of ways and settings – from field studies on managers (e.g., Yukl & Travey, 1992) to experimental studies on student samples (e.g., Vecchio & Sussman, 1991), but the vast majority of them use a self-report measure in which either the agent or the target indicates on a series of scales the degree to which different tactics are used. Although several studies, particularly those

conducted in the development of the measures (e.g., Kipnis, Schmidt & Wilkinson, 1980), evaluated critical incidents, the evaluation of influence tactics is rarely done by a third party, or in a purely experimental setting. For this reason, the methods used in the present effort will be a departure from much of the prior research on influence strategies.

Studies on influence tactics have, thus far, focused on three primary areas – frequency and direction of tactic use (Gravenhorst & Boonstra, 1998; Jensen, 2007; Yukl & Falbe, 1990), effect on follower commitment (Falbe & Yukl, 1992; Yukl & Tracey, 1992), and the type of leaders that use the different strategies (Vecchio & Sussman, 1993; Yukl, Kim & Falbe, 1996). Often these studies have produced a rank order of which strategies are used most often and general classifications of which ones are most effective or ineffective. A smaller body of influence strategy research has attempted to evaluate conditions under which different strategies are selected. For instance, Lamude & Scudder (1995) determined that the selection of different tactics was related to whether the manager was serving in the vision setter, the motivator, the analyzer or the task master role. Jensen (2007) found that influence strategies used in a group setting varied depending on what stage of the decision-making process the group was in, and Yukl, Falbe, and Youn (1993) determined that there were differences in whether the influence was an initial or follow-up attempt. Finally, results from a study by Yukl, Kim and Falbe (1996) indicate a relationship between the leader's power, characteristics of the request, and the strategy selected. This smaller body of research seems to indicate that care should be taken in making general arguments about the utility of each tactic, because it may depend on the situation.

Most relevant to the current study on leadership within a team network are studies conducted by Guerin (1995), Steensma (2007), and Yukl & Tracey (1992). Guerin (1995) found that the use of different influence tactics varied if the leader was influencing an individual or a group, and whether the leader was influencing a friend or a stranger – indicating that the leader makes an assessment of the social context when selecting influence strategies. Steensma (2007) evaluated the subjective expected utility of different strategies and found that the expected utility of strategies was correlated with the preferred and actual use of different tactics – suggesting that leaders do engage in a utility assessment when determining which tactics to use. Along these lines, Yukl & Tracey (1992) propose that several factors may play a part in whether a tactic is effective – consistency with social and role expectations, the agent having the power to use the tactic, relevance to the goal to be accomplished, expected resistance anticipated from the target, and the cost in relation to benefits of using the tactic. Based on these studies, it is anticipated that the leader will use the influence tactics differentially based on the context they are in.

Hypothesis 1: Leaders will use influence tactics differentially to suit the context that they are in.

Leadership within Networks

As Kilduff and Tsai (2006) point out in their book on social networks in organizations, much of the work on organizational behavior has neglected to consider the social context in which actions are taken. Rather, organizational research predominantly takes an "atomistic" approach – isolating the attitudes and behaviors of individuals and dyads from the pattern of social relationships around them. Studying the social networks within organizations is important for understanding organizational processes at all levels

(Brass, Galaskiewicz, Greve, & Tsai, 2004). At the cognitive level of analysis, evaluating an individuals' perceptions of the social network around them can provide valuable insight into their attitudes and behaviors. For instance, a study by Krackardt (1990) demonstrated that individuals that had an accurate mental model of the network around them and, specifically, the information channels used between members, were perceived by others to be more powerful.

Additionally, from an individual-level perspective, position within the network can reflect an outcome of individual differences, or an antecedent to different behaviors. For instance, Mehra, Kilduff, and Brass (2001) found that individuals at the center of their networks scored higher for self-monitoring suggesting perhaps that others form connections with individuals that adjust their behavior based on the context, or that high self-monitors seek network positions with the richest social cues. Similar findings relevant to leadership research indicate that an individual's network position may predict whether they emerge as an informal leader and may also be related to their effectiveness as a formal leader (Balkduni & Harrison, 2006), and that the social network of a leader can facilitate their development by providing an avenue for acquiring expertise and professional support (Bartol & Zhang, 2007). Other individual-level outcomes that have been shown to be related to network processes include task performance (Cross & Cummings, 2004), creativity (Perry-Smith & Shalley, 2003), organizational commitment (Morrison, 2002), turnover (Krackhardt & Porter, 1986), and unethical behavior (Brass, Butterfield, & Skaggs, 1998).

The study of networks also provides important insights into processes at the group and organizational level. Evaluating the connections among individuals in a work team

can provide information about a variety of team processes including work flow, resource use, conflict, socialization, knowledge transfer, and affective climate, among others (Kilduff & Tsai, 2006). For instance, a study by Barsade (2002) on emotions in work groups found that exposure to, or connections with, individuals in a good or bad mood has a "ripple effect" on others in the team and will likely ultimately effect the affective climate of the entire group. It is important to note that individuals' perceptions of the environmental conditions within the team, defined as the climate of the team (Denison, 1996), are greatly influenced by the interpersonal context that individuals are in. In this regard, networks are essentially the conduit by which group-level information is communicated. For instance, Morrison (2002) conducted a study on socialization and found that characteristics of the network that new members entered into (e.g., size, density) were related to their acquiring of organizational knowledge, task mastery, and role clarity. Additionally, the friendship networks that they formed were related to their integration into the social context and to their organizational commitment. An important conclusion from this body of research is that networks can provide both opportunities and constraints on the behaviors of the people within them. It is unclear, however, *how* aspects of the network may influence attitudes and behaviors. We hope in the present study to take a step towards investigating this "black box" by evaluating how network characteristics play a role in a leader's decision to engage in influence behaviors.

Despite the growing body of research on networks, there is not one "network theory" and researchers have taken a variety of approaches to studying them. The majority of studies involve actual team networks being evaluated in field studies (e.g., Sparrowe, Liden, Wayne, & Kraimer, (2001), or individuals self-reporting information

about their networks through surveys (e.g., Carroll & Teo, 1996). More rare are studies that experimentally manipulate characteristics of a network, for instance through team member confederates or case simulations. Additionally, there are a variety of network characteristics that might be evaluated. Kilduff and Tsai (2006) outline and describe the various characteristics of networks which others have divided into either structure or content characteristics. Structural aspects are simply the logistical characteristics of the network, such as connections between actors, density of connections, centrality of actors, clustering of actors, and cleavages between clusters. Content characteristics, on the other hand, contain more process information. Examples of content characteristics include social capital and embeddedness of work relationships within social relationships.

Although there is minimal research on leaders in the context of social networks, there is evidence that characteristics of the leader's network may influence their behavior and offer opportunities for achieving objectives (Balkundi & Harrison, 2006; Balkundi & Kilduff, 2006; Carroll & Teo, 1996). An example of network characteristics facilitating performance is demonstrated in a meta-analysis conducted by Balkundi and Harrsion (2006) in which it was found that teams whose leaders were central in their network performed better. The authors proposed this outcome to be a result of the leader gaining greater access to resources as a result of their network position. Far less, if any, research has been conducted on network characteristics constraining leader decisions. However, based on the available literature on leadership within networks and the broader network literature, it is expected that a leader would use the information provided by the network structure around them when deciding what action to take. In the context of the current

study, it is expected that leaders will evaluate characteristics of their network in terms of the opportunities or constraints that they present.

Hypothesis 2: Leaders will evaluate characteristics of their social network for facilitators or constraints on the use of different influence tactics.

Method

Sample

The sample used to test these hypotheses included 158 undergraduate students, 96 women and 62 men, attending a large southwestern university. The students in the sample were recruited through psychology courses offering extra credit or requiring research participation hours. Prior to agreeing to participate, students reviewed a brief description of the study posted on a website and then decided that they were willing to join the study. The average age of participants was 20 years old and most were in their first or second year of college. The average ACT score was 25, nearly 4 points above the national average of students graduating high school in 2009.

General Procedure

Study participants were recruited to participate in what was described as a leader problem-solving study. During the first hour of the three hour study, participants completed a battery of covariate measures that included psychometric tests of intelligence, expertise, personality, and social skills. These measures were selected as control measures that may confound the relationships we were intending to investigate.

During the second and third hour of the study, participants were permitted to work at their own pace through two separate leadership simulation tasks – one focused on organizational restructuring and one focused on innovation. The paper and pencil tasks

were low-fidelity simulations of two different scenarios in which they were to assume the role of a leader within an organization. In the first task, they were to assume the role of vice president of the sales and marketing team, and in the second task they were asked to assume the role of the director of a research and design team. Both tasks followed the same procedure once the company and the problem were described. After reading through background information on the company, their role and the problem, they were then given a series of short biographical sketches of their team members. They were asked to read through the sketches and then instructed to draw the social network connections between team members as indicated in their biographical sketches. They were then to respond to two different problems for this first leadership task. The first problem was task-oriented and the second problem was people-oriented.

The main manipulation occurred in the biographical sketches that each participant was given. They were either given a large or small number of team members, a team in which members had either dense or few connections, and a team that had either more or less embedded relationships. With three main manipulations at 2 levels each, there were a total of eight possible conditions, or networks, they could have been given. Each of the four problems they were asked to respond to included a question asking what they would do, and a follow up question on their reasoning which were intended to elicit information on their influence strategies. We now turn to a detailed description of the individual differences control measures, experimental task, manipulations, independent variables, and analysis plan.

Individual Differences Measures

The first individual difference measure administered to participants was given to evaluate cognitive ability. Cognitive ability was measured as a potential control variable due to the problem-solving nature of the task and the potential that cognitive ability would confound interpretations related to participants' performance. The test used to evaluate cognitive ability was the Wonderlic Personnel Test which has demonstrated split-half reliabilities above .80 (McKelvie, 1989) and evidenced adequate validity (Frisch & Jessop, 1989; Hawkins, Faraone, Peple, Seidman, & Tsuang, 1990). In addition to cognitive ability, participants were asked to self-report ACT scores and their overall GPA on a background data form as additional indicators of problem solving and academic achievement.

In addition to GPA and ACT scores, individuals were asked to self-report a number of background indicators of domain expertise. Given the nature of the task they were being asked to do, a business-oriented leadership simulation, they were asked questions regarding their business, marketing, leadership and general work experiences. Participants self-reported years of work experience, the number of different types of jobs they had worked in, number of business classes taken, number of marketing classes taken, and their amount and level of leadership experience. They were also given a measure adapted from procedures previously employed by Scott, Lonergan, and Mumford (2005) which asked six questions about prior exposure to and consideration of business issues (e.g., How likely is it that you will pursue a career in business?). The six items have produced an internal consistency coefficient above .70 and evidence for the measure's validity as a predictor of expertise has been provided by Scott, Lonergan, & Mumford (2005).

In addition to cognitive ability and domain expertise, it was critical to assess individual's social skills given that it was a study of judgments related to variations in social network conditions. To evaluate social skills, participants were asked to complete Riggio's (1986) Social Skills Inventory. The SSI asks people to rate on a 5 point scale the degree to which they believe a statement describes them. The measure is a series of 90 statements about different attitudes and behaviors (e.g., "It takes people quite a while to get to know me well") intended to produce scores for six scales – emotional expressivity, emotional sensitivity, emotional control, social expressivity, social sensitivity, and social control. The SSI has demonstrated test-retest reliabilities above .80 and internal consistency coefficients above .70 and evidence for the validity of the measure can be found by consulting Riggio (1986) and Riggio and Carney (2003).

Finally, participants were asked to complete two measures of personality oriented variables. The first measure, Goldberg's (1992) unipolar personality assessment, provided a global evaluation of the Big-5 personality scales – neuroticism, extroversion, openness, agreeableness, and conscientiousness. For this measure, participants were given 100 self-descriptive words (e.g., active, out-going, reserved) and were asked to rate on a 9-point scale the degree to which these words accurately described them relative to their peers. The results for the five scales provided internal consistencies above .80 and studies by Becker, Billings, and Eveleth (1997), Reyson (2005), and Saucier (2002) have demonstrated the construct validity of the measure.

The second personality measure was administered due to the open-ended, problem-solving nature of the experimental task. Participants were asked to complete Cacioppo and Petty's (1982) need for cognition scale. This scale is an 18 item behavioral

self-report measure in which participants are asked to indicate on a 5-point scale, the degree to which they agree with a statement (e.g., “I prefer complex to simple problems”, “Thinking is not my idea of fun”). The internal consistency coefficient for this scale exceeded .80 and evidence for its validity can be found by consulting Cacioppo & Petty (1982).

Experimental Task

The experimental activity that participants engaged in included two separate leadership simulation tasks. Both were the same in their general design and the format of the problems that they were asked to solve for each of the two tasks, but they differed on the general domain that they were working in; one was an organizational restructuring task and one was an innovation task. The two different tasks were administered to determine if use of influence tactics would vary across different domains and if effects observed for network characteristics would vary across domains. In both tasks they were asked to assume the role of a team leader and in both cases they were told that they had recently joined the team. It was important to clarify that they were new to the team so that they did not make assumptions as to their position in the network of relationships.

For the first leadership task, an adapted version of a task previously used by Friedrich and Mumford (2009), participants were asked to assume the role of the new Vice President of Sales and Marketing at Sweet Thing Cookie Company. To personally engage them in the situation and their role, they were provided information on the history of the company and how they came to be Vice President of Marketing and Sales. They were then provided information on the general situation that the company was facing. They were told that within the first month of assuming the VP role, the organization

decided to expand and acquired a smaller company focused on healthier snacks – Snack Right. They are informed that they will eventually be leading a joint marketing and sales team from both organizations. They are then provided short biographical sketches of their current team with which they will be asked to solve two different problems. Examples of these biographical sketches can be seen in Figure 1.

[Insert Figure 1 about Here]

After being asked to read through the biographical sketches of their team members they were asked to draw the social network of the team. They had been told in the prior instructions to pay particular attention to which employees work with one another and the information on who each person is associated with is explicitly outlined in the "primary contacts" section of their biographical sketches. As can be seen in Figure 2, they were provided instructions and an example of how to draw the social network and were also given an unconnected set of circles representing their team members for them to draw in the appropriate connections. The instructions to pay close attention to the relationship information, and having them draw the network, was done intentionally to ensure that every participant processed the network information.

[Insert Figure 2 about Here]

After drawing their team's network they were then asked to respond to two different problems, one task-oriented and one people-oriented. In the first, task-focused problem they are told that they need to develop a plan for combining the two sales and marketing teams. In describing their plan they are asked to discuss how they will integrate and organize the team for a new sales and marketing strategy, and how they will present the reorganization plan to their members. In an attempt to elicit discussion of

their influence strategies they are specifically asked to discuss their use of motivational, influence, and organizational strategies they would use in accomplishing the given task. They are first given two pages to describe their plan for solving the problem, and then they are given another two pages with a follow-up prompt to discuss their reasoning for taking the approach that they did. This second follow up question was intended to get additional decision making information regarding their influence strategy beyond just the description of their strategy.

For the second, people-focused problem that they were given for this task, they are told that after working together for several weeks, there is still a divide between members from the two organizations and that the Snack Right team members still feel like outsiders and do not feel like their ideas are being considered. The participant is then asked to develop a plan for resolving the problem based on what they know of their original team and, again, asked to describe what motivational, influence, and organizational strategies they would use in solving the problem. Once again, they are asked to describe their plan and also their reasoning for using the strategy that they did.

Once participants completed the first leadership task, they were asked to move on to the second task which was an innovation-focused task. In this task they were asked to assume the role of director of Research and Development for Play Stages Toy Company, a company focused on educational toys that were designed for the different developmental stages of children. As with the other task, they were given a description of the organization and of their role and how they came to be the director. They were then told of the current situation that the organization was facing which was a decrease in sales due to a backlash against educational, or "edu-tainment," toys, which were being

accused of damaging children's sense of "play" and lack of social interaction. Thus, the company was looking to adapt to this problem and develop toys that were both educational but also emphasized fun and socializing with other children.

The flow of this task was the same as the other – they were provided the general situation, a description of their team with biographical sketches, asked to draw their network, and then given two problems. The first, task-focused problem asked them to develop a new research and development strategy to accomplish the organization's new mission. The second, people-focused problem informs them that they are to develop a task-force of members from all over the organization to help with an innovation, but that their R&D team believes they should be solely responsible for carrying out innovations and may not be receptive to the ideas of others in the organization. For both problems they were asked to discuss what motivational, influence and organizational strategies they would use to accomplish the problem, and are then asked to follow up with a discussion of their reasoning for using the strategies that they did.

Manipulations

To evaluate whether characteristics of a team's social network impact a leader's selection of their influence strategy, the independent variables of this study are three different characteristics of networks, each at two levels, that may influence leadership strategies. The first two characteristics selected were based on research conducted by Balkundi & Kilduff (2006) that discusses connections within a network and the embeddedness of individuals in a network as distinguishing features between networks. For the present study, actor connections are operationalized by explicit relationships between two team members and embeddedness is operationalized by the depth of

connections between two actors as indicated by the number of levels that they are related to one another. In addition to these two variables, it was of interest whether the size of a team's network also played a role. The manipulation of these variables occurred in the biographical sketches of their team that each participant was given. Example diagrams of these manipulations are provided in Figure 3. We now turn to a detailed description of how each of these variables was manipulated.

[Insert Figure 3 About Here]

Network Size: The first of the three network variables manipulated was the size of the network that the participant was given. Participants were either given a small network of five team members or a larger network of ten team members. It was determined that teams of five and ten were different enough in size to elicit behavioral differences while not introducing other effects, as may be the case if the team size was so large they could not keep the relationships between members in mind as they worked through the problem. Additionally, a team of at least five was necessary so that there would be enough actors to implement the second and third manipulations.

Interconnectedness: The second network variable being manipulated was the degree of interconnectedness within the network. Individuals were given networks that were either low in interconnectedness, where each team member was only connected to two other team members, or high in interconnectedness, where team members were connected to three different team members. These connections were indicated in the "Primary Contacts" section of their biographical sketch. For instance, in the low connectedness condition Justine Meyer's primary contacts would say "Collaborates with Jamie Davis in coordinating their research projects," "Corresponds with Tanya Firestone

to provide educational psychology research for patent applications," while in the high condition she would have those two contacts as well as "Meets with Suzanne Gaston to ensure initial models coordinate with research." While the addition of one contact may not seem substantial, as indicated in the diagrams in Figure 3, the aggregate difference between all members being connected by one additional connection is significant.

Embeddedness: The third, and final, network variable being manipulated is the level of embeddedness of members within the network. As described by Kilduff & Tsai (2006), connections between individuals usually exist at a number of levels and work relationships often overlap with personal relationships. Thus, the embeddedness of actors, and the network as a whole, is represented in the layers of connections between individuals. For the low embeddedness condition, the biosketches only described connections related to work, while in the high embeddedness condition, half of the existing connections between actors had a second connection. For example, in the low embeddedness condition, Justine Meyer "Collaborates with Jamie Davis in coordinating their research projects," while in the high embeddedness condition, Justine Meyer "Collaborates with Jamie Davis in coordinating their research projects, and they also tutor psychology students together." Other examples of secondary connections include being on committees together, playing on sports teams together, being friends from college, among others. These three manipulations, at two levels each, were crossed such that participants were assigned to eight possible conditions. Diagrams of each of these conditions are presented in Figure 3.

Dependent Variables

The dependent variables of interest in the current study were Yukl's (2009) 11 proactive influence tactics. Participants' responses to the four problems they were asked to respond to were content coded by trained raters for indicators of each of the influence tactics, ultimately providing scores for the degree to which participants used each influence tactic in responding to each problem. Ratings were made by three judges using a set of benchmark ratings scales. The benchmark scales were based on general definitions provided by Yukl (2009) and example markers of each tactic adapted from Yukl, Seifert, and Chavez's (2008) extended Influence Behavior Questionnaire.

Based on the definitions and example markers of each influence tactic, the three judges, all doctoral students in industrial and organizational psychology, were asked to rate, on a 5-point Likert scale, the degree to which the participant used each influence tactic in their response to the problem (1 = did not use the tactic at all, 3 = tactic was used but only part of their overall strategy, 5 = tactic was the dominant part of their strategy) They were first asked to make these ratings for a sample of 20 participants. Based on this initial sample of ratings, anchors were selected that evidenced high agreement across judges with regard to low, medium, and high ratings of each tactic. These benchmark examples from the sample were provided, in addition to the definition and example markers, as a guide as the judges then rated the entire sample of participant responses.

Five judges total were trained to rate the participant responses. All judges are familiar with the leadership literature, but were not familiar with study hypotheses. For any given participant, three of the five judges rated the responses, and the three judges that rated each participant were rotated at random. Prior to making their ratings, judges

participated in a 20 hour training program where they were familiarized with the questions being asked of the participants and the rating scales. Subsequently, judges practiced applying the scales to a sample of responses. Their initial reliabilities were evaluated and they then met to discuss discrepancies and review any scales with low agreement. Following training the inter-rater agreement coefficients obtained for each influence strategy were .73 for Rational Persuasion, .83 for Apprising, .76 for Inspirational Appeals, .77 for Consultation, .85 for Collaboration, .94 for Ingratiation, .98 for Personal Appeals, .93 for Exchange, .93 for Coalition Tactics, .84 for Legitimating Tactics, and .88 for Pressure, with an overall reliability of .84.

Analyses

To examine whether the leaders used influence tactics differentially across contexts, and across different network characteristics specifically, a series of analysis of variance and analysis of covariance tests were conducted. The dependent variables examined in each analysis were the 11 different influence tactics as rated by the trained judges. The independent variables were the size of the network, level of interconnectedness within the network, and the level of embeddedness within the network. The ANCOVAs were conducted separately for each problem within each task to evaluate the differential use of tactics for different network characteristics within each domain and type of problem. Four univariate analysis of variance tests were conducted for each influence tactic rather than a single multivariate analysis of varaince because it was determined that different covariates were significant across the different problem types. Additionally, paired-sample t-tests were conducted to evaluate within person differences in the use of each tactic between the restructuring and innovation tasks, and

between task-focused and person-focused problems. A covariate was retained only if it provided relationships significant at the .10 level.

Results

Inspirational Appeals

Table 2 presents the results obtained in the series of ANOVAs and ANCOVAs completed examining the use of the inspirational appeals tactic for the four different problems. As shown, significant effects were only obtained for the two problems of the restructuring task, and ACT score was found to be a significant covariate for both the task-focused problem ($F(1, 149) = 10.529$, $p \leq .05$), and the people-focused problem ($F(1, 149) = 2.813$, $p \leq .10$). ACT score was negatively related to inspirational appeals which may be due to those with higher ACT scores, a general indicator of problem-solving, relying more on logical arguments rather than basing their influence on follower's values.

When controlling for ACT score, significant main effects were obtained in the restructuring, task-focused problem for network embeddedness ($F(1, 149) = 6.696$, $p \leq .05$), and in the restructuring, people-focused problem for connectedness ($F(1, 149) = 4.015$, $p \leq .05$). Inspection of the cell means indicated that inspirational appeals were used more for less embedded networks ($M = 1.913$, $SE = 0.086$) than more embedded networks ($M = 1.599$, $SE = 0.086$), and more for more connected networks ($M = 1.775$, $SE = 0.072$) than for less connected networks ($M = 1.570$, $SE = 0.072$). These findings are consistent with research on charismatic leadership and the use of an inspirational message to unite a team towards a goal. Inspirational appeals would be useful for groups that have less embedded, or weaker, bonds and would need a values-laden argument to bring them

together as a team. Additionally, visions are often communicated in a downward manner through a network of subordinates, therefore leaders may see a highly connected team as a condition conducive for distributing an inspirational message.

In addition to the main effects, a significant interaction between interconnectedness and embeddedness ($F(1, 149) = 5.505$, $p \leq .05$) was found for the restructuring, people-focused problem. Inspection of the cell means indicates, generally, that the effect for embeddedness is greater for more connected teams. For less connected teams, the use of inspirational appeals in low embedded teams ($M = 1.502$, $SE = 0.102$) was similar to the use of inspiration appeals in high embedded teams ($M = 1.638$, $SE = 0.103$), while for more connected teams, the use of inspirational appeals was greater in less embedded teams ($M = 1.947$, $SE = 0.103$), than more embedded teams ($M = 1.603$, $SE = 0.102$) indicating that evaluating the connections through which a vision would be distributed may be a first step before evaluating the utility in unifying a weakly embedded team. A significant 3-way interaction among size, interconnectedness, and embeddedness ($F(1, 149) = 5.524$, $p \leq .05$) was found for the restructuring, task-focused problem and the pattern demonstrated in the means added general support for the conclusions regarding embeddedness and connectedness.

In addition to the effects across network types, there was a significant difference in the use of inspirational appeals across the two tasks. The results of a paired-sample t-test indicated a significant difference in the use of inspirational appeals between responses to the restructuring and innovation tasks ($t(157) = 4.645$, $p \leq .01$) with inspirational appeals being used more for the restructuring task ($M = 1.714$, $SD = .619$) than the innovation task ($M = 1.495$, $SD = .514$). Given that inspirational appeals may be

most useful for networks that have weaker connections, and that visions are often used in uniting others toward a common goal, it is understandable that inspirational appeals were used more for the task that involved integrating two teams from separate organizations that needed to be aligned to a single organizational goal. There was no significant difference in the use of inspirational appeals between the task-focused problems and people-focused problems.

[Insert Table 2 about Here]

Consultation

Table 3 presents the results obtained in the series of ANOVAs and ANCOVAs completed examining the use of the consultation tactic for the four different problems. As shown, only one significant effect was obtained for the innovation, people-focused problem, and three of Riggio's (1986) social skill scales were found to be significant covariates for that analysis. Social Expressivity ($F(1, 147) = 10.602$, $p \leq .05$) and Social Control ($F(1, 147) = 4.550$, $p \leq .05$) were both negatively related to consultation, while Social Sensitivity ($F(1, 147) = 7.859$, $p \leq .05$) had a positive relationship. Given that individuals high on Social Expressivity are outgoing, lead conversations and may, at very high levels, speak without thinking and that individuals high on Social Control adjust their style to situations and tend to guide the direction and content of the conversation (Riggio & Carney, 2003), it is understandable that they would be negatively related to a tactic that involves more listening and two-way conversation than other tactics. Social Sensitivity, on the other hand, involves interpreting the verbal cues of others and understanding social processes – characteristics that would be advantageous to consultation.

Although there were no significant main effects, a significant interaction between size of the network and interconnectedness ($F(1, 147) = 4.275$, $p \leq .05$) was observed for the innovation, people-focused problem. An examination of the cell means indicated that the effect of interconnectedness varied as a function of the team size. Specifically, for small teams, consultation was used more for less connected teams ($M = 1.604$, $SE = 0.112$) than more connected teams ($M = 1.480$, $SE = 0.112$), and for larger teams consultation was used more for more connected teams ($M = 1.816$, $SE = 0.113$) than for less connected teams ($M = 1.475$, $SE = 0.113$). Based on these results, it appears that consultation is used when teams are small and disconnected or large and interconnected. If the leader was using consultation as an information exchange strategy, consulting in a very large team would be very time intensive; however an interconnected network would allow the leader to seek out "hubs" or interconnected individuals to consult as representatives of the team. The need for representatives would not be as great for smaller teams.

Although there were no significant network effects for the restructuring task, a paired-sample t-test indicated that there was a significant difference in the use of consultation between the restructuring and innovation tasks ($t(157) = 3.375$, $p \leq .01$) with consultation being used more for the restructuring task ($M = 1.811$, $SD = .720$) than the innovation task ($M = 1.620$, $SD = .581$). Although research on creativity and innovation would indicate the value in leaders engaging in information exchange during research and development projects, consultation may have been used more in the restructuring task as a proactive effort on the part of the leader to reach out to the new

individuals joining from the acquired organization. There was no significant difference in the use of consultation between the task-focused problems and people-focused problems.

[Insert Table 3 about Here]

Collaboration

Table 4 presents the results of the series of ANOVAs and ANCOVAs conducted to evaluate the use of the collaboration tactic. Although there were no significant effects, a main effect for network interconnectedness approached significance ($F(1, 150) = 3.770$, $p = .054$) and is believed to point to meaningful conclusions. This main effect was observed for the innovation, task-focused problem and indicated that collaboration was used more when there were more connections within the network ($M = 1.510$, $SE = 0.062$) than when there were fewer connections ($M = 1.341$, $SE = 0.062$). There were no significant covariates for this problem. Similar to the way in which connections likely facilitated the use of consultation, the leaders may have viewed the ties between individuals as a structure by which to engage in collaboration. Additionally, the connections among other members may have provided cues about a team climate for collaboration and thus increased the likelihood that they, too, would engage in collaboration.

In addition to this main effect for network embeddedness, a paired-sample t-test indicated that there was a significant difference in the use of collaboration between the task-focused problems and the people-focused problems ($t(157) = 5.156$, $p \leq .01$). It was found that collaboration was used more for task-focused problems ($M = 1.384$, $SD = .402$) than people-focused problems ($M = 1.223$, $SD = .323$). Given that collaboration involves the leader offering to assist the members, either directly or with resources, if

they comply, it seems less appropriate when facing an interpersonal problem than a task-oriented problem with a clear objective. The interpersonal problems they were given were not as focused on the management of objectives and resources and thus reduced the utility of collaboration as an influence tool.

[Insert Table 4 about Here]

Coalition Tactics

The results of the series of ANOVAs and ANCOVAs conducted to evaluate the use of coalition tactics can be found in Table 5. Although there were no significant effects, the interaction between interconnectedness and team size approached significance ($F(1, 149) = 3.762$, $p = .054$) for the innovation, task-focused problem, and would be valuable to evaluate further. The different types of work that individuals had experience in was a significant covariate for this problem ($F(1, 149) = 5.488$, $p \leq .05$) and was positively related to the use of coalition tactics. Experience in different types of work environments likely provides individuals with a better understanding of how to work in different political environments and use the connections around them.

An examination of means for the interaction between team size and connectedness indicates that the effect for connectedness varies as a function of team size. Specifically, for small teams, the leader used coalition tactics more for more connected teams ($M = 1.159$, $SE = .039$) than for less connected teams ($M = 1.090$, $SE = .039$) and for larger teams, the leader used coalition tactics more for less connected teams ($M = 1.133$, $SE = .040$) than for more connected teams ($M = 1.049$, $SE = .040$). It appears that the connections within a team presented an opportunity for using coalitions to accomplish goals. For larger disconnected teams, however, coalition tactics were likely

used in a more proactive than reactive sense, such that leaders are using coalition tactics to build more connections within the disperse network to facilitate accomplishing goals.

With regard to differences between problem types, a paired-sample t-test indicated a significant difference between the use of coalition tactics for the restructuring and innovation tasks (t (157) = 3.692, $p \leq .01$), with the tactics being used more for the restructuring task (M = 1.200, SD = .327) than the innovation task (M = 1.110, SD = .245). For the restructuring task, the leader was being asked to integrate two teams from separate organizations – a situation in which using allies in each group would prove beneficial. Additionally, there was a significant difference in the use of coalition tactics between task-focused problems and people-focused problems (t (157) = 4.198, $p \leq .01$), with the tactics being used more for the task-oriented problem (M = 1.206, SD = .322) than the people-oriented problem (M = 1.104, SD = .248). As was the case with collaboration, it is likely that drawing on separations (coalitions) in the network would not be conducive to resolving interpersonal problems, whereas using coalitions to gain buy-in towards a task objective would not be divisive.

[Insert Table 5 about Here]

Rational Persuasion

As shown in the results displayed in Table 6, several significant effects were observed for the use of Rational Persuasion for the organizational restructuring task. For both problems within that task, it was found that the effect of embeddedness varies as a function of connectedness, both for the task-focused problem (F(1, 148) = 4.162, $p \leq$ .05), and the people-focused problem (F(1, 148) = 4.044, $p \leq .05$). The Wonderlic intelligence test (F(1, 148) = 3.387, $p \leq .10$) and Riggio's Social Sensitivity scale (F(1,

148) = 4.531, $p \leq .05$) were found to be significant covariates for the restructuring, task-focused problem, while there were no significant covariates for the people-focused problem. Wonderlic scores were negatively related to the use of rational persuasion, while social sensitivity was positively related. Although it seems counter-intuitive that intelligence would be negatively related to a logic based strategy, the nature of the restructuring task would require skill in making socially oriented rational arguments – something that is likely more related to social skills than intelligence.

Examining the means for the task-focused problem, indicates that for less connected teams, the leader used rational persuasion more for more embedded teams (*M* = 2.080, *SE* = .110) than for less embedded teams (*M* = 1.903, *SE* = .109) and for more connected teams, the leader used it more for less embedded teams (*M* = 1.954, *SE* = .110) than for more embedded teams (*M* = 1.681, *SE* = .109). This pattern was the same for the people-focused problem in which the leader again used rational persuasion more for more embedded teams (*M* = 1.713, *SE* = .093) than for less embedded teams (*M* = 1.592, *SE* = .092) for the less connected teams, and for more connected teams, the leader used it more for less embedded teams (*M* = 1.825, *SE* = .093) than for more embedded teams (*M* = 1.575, *SE* = .092). As demonstrated by the means for both problems, the effect of embeddedness is stronger for highly connected teams, and rational persuasion was used least for highly connected, and highly embedded teams.

The effects observed for this influence tactic may be a result of the climate the leader may perceive to be associated with a highly connected and embedded team. In situations where everyone in the team works closely with one another, and the relationships are highly embedded, the leader may perceive the processes within the team

to be more personal and less formal. In this instance, they would see more utility in personal tactics rather than rational arguments. Further support for this argument is found upon examination of the three-way interaction ($F(1, 150) = 5.381$, $p \leq .05$), which indicates that the effect is even more pronounced for smaller teams. Smaller teams would add an additional sense of intimacy that would be less present in larger teams. Paired-sample t-tests indicated that there were no significant differences in the use of rational persuasion between the different task and problem types.

[Insert Table 6 about Here]

Apprising

The results of the series of ANOVAs and ANCOVAs evaluating the use of apprising for the four different problems are presented in Table 7. As shown in the table, there was a main effect for network size for both the restructuring task, people-focused problem ($F(1, 149) = 4.321$, $p \leq .05$) and the innovation task, people-focused problem ($F(1, 149) = 5.421$, $p \leq .05$). Apprising is used more in small teams ($M = 1.533$, $SE = .052$) and ($M = 1.628$, $SE = .055$) than large teams ($M = 1.379$, $SE = .053$) and ($M = 1.445$, $SE = .056$) for both the restructuring task, people-focused problem and innovation task, people-focused problem respectively. For both the restructuring, people-focused problem ($F(1, 149) = 7.630$, $p \leq .01$), and the innovation, people-focused problem ($F(1, 149) = 5.741$, $p \leq .05$) , year in college was a significant covariate and was positively related to the use of apprising. As individuals advance in college, they likely gain a better understanding of how opportunities can be capitalized on to advance oneself and thus would be better equipped to use an apprising tactic to demonstrate to others how their participation will help them.

In addition to the main effect for network size, there was also a significant main effect for embeddedness ($F(1, 150) = 6.770$, $p \leq .05$) observed for the innovation task, task-focused problem in which apprising was used more for less embedded teams (M = 1.311, SE = .045) than for more embedded teams (M = 1.144, SE = .045). These three significant effects indicate that apprising is used more when teams are small and do not have embedded connections among team members. Given that apprising is a highly personalized tactic in which the leader makes a specific demonstration to individuals of how their participation will benefit them, it is understandable that the tactic would be too time intensive to use in larger teams. Additionally, in teams that are highly embedded, individuals have personal relationships with one another and the leader may anticipate that the use of apprising may result in issues of social comparison and distributional justice.

In addition to the main effects for size and embeddedness, a significant interaction between network size and interconnectedness ($F(1, 149) = 5.389$, $p \leq .05$) was observed for the innovation task, people-focused problem. Examining the means indicated that the effect of network size varies such that the effect of size was more pronounced when the team was highly connected. For weakly connected teams, the use of apprising was nearly the same between small teams (M = 1.523, SD = .078) and large teams (M = 1.524, SD = .079). For more connected teams, however, apprising was used more for small teams (M = 1.734, SD = .078) than for large teams (M = 1.366, SD = .080). It is believed that this effect is due to apprising being more feasible cost-wise for smaller teams, but also that the work connections within the team may provide the leader a basis by which they can

demonstrate opportunities for advancement and know that individuals will be aware of the status of others.

Paired-sample t-tests indicated that there were significant differences in the use of apprising between the task types (t (157) = 4.207, $p \leq .01$) and problem types (t (157) = -2.443, $p \leq .05$). Apprising was used more for the restructuring task (M = 1.530, SD = .450) than the innovation task (M = 1.383, SD = .361), and was used more for the people-focused problems (M = 1.498, SD = .394) than the task-focused problem (M = 1.415, SD = .417). Apprising may have been used more for the restructuring problem because career and personal opportunities would be more salient when the company was being reorganized than for the innovation task. For the people-oriented problems, the leader is faced with situations where one group is unhappy about a situation. The use of apprising in this situation may be done proactively to demonstrate that there is something to gain for them personally, as opposed to the task-oriented problems that are focused on an objective that would be less personal to them.

[Insert Table 7 about Here]

Personal Appeals

The ANOVA and ANCOVA results for the personal appeals influence tactic are presented in Table 8. Although there were no significant main effects, a main effect for network size approached significance (F(1,149) = 3.713, p = .056) for the innovation task, people-focused problem with personal appeals being used more when teams were small (M = 1.063, SE = .015), than when teams were larger (M = 1.022, SE = .015). Extraversion was a significant covariate for this problem (F(1,149) = 8.259, $p \leq .05$) and was negatively related to personal appeals. Introverts, relative to extraverts, are more

likely to have a few close bonds, rather than a series of looser bonds. Thus, extraverts will not be as likely to utilize close personal bonds to attain compliance. With regard to team size, it is likely that cost, again, is coming into play. As with several of the other influence tactics that required adapting appeals to each individual, personal appeals require significant contributions of time from the leader. It is, therefore, less feasible to use personal appeals in a larger team.

In addition to the marginally significant main effect for team size, there were two significant interactions – an interaction between network size and embeddedness for the restructuring task, task-focused problem ($F(1,150) = 7.916$, $p \leq .05$), and an interaction between interconnectedness and embeddedness for the innovation task, people-focused problem ($F(1,149) = 7.964$, $p \leq .01$). Examining the cell means for the first interaction indicates that the effect for team size varies such that for teams where the relationships are not embedded, the effect of size holds and personal appeals are used more for small teams ($M = 1.075$, $SE = .016$) than for larger teams ($M = 1.017$, $SE = .016$). However, if the relationships are embedded, personal appeals are used more for larger teams ($M = 1.034$, $SE = .016$) than for smaller teams ($M = 1.000$, $SE = .016$). With regard to personal appeals and embeddedness, the leader may be considering whether other members will socially compare the individualized presentations being made to them. It appears, perhaps, that the cost of personal appeals makes it more useful for smaller teams in general, however if the relationship among team members is embedded, the leader may anticipate that a larger team size will mitigate the social comparison.

For the second interaction, the means indicate that the effect for connectedness varies as a function of embeddedness, such that for teams where the relationships are not

embedded, personal appeals are used more when the team is more connected (M = 1.072, SE= .022) than for teams that are less connected (M = 1.005, SE= .022). However, if the relationships are embedded, personal appeals are used more for less connected teams (M = 1.073, SE= .022) than for more connected teams (M = 1.019, SE= .021). Again, leaders may be concerned that stronger personal relationships would result in social comparison and justice issues, and thus only use personal appeals in a highly embedded team if the team was more disconnected.

In evaluating the use of personal appeals across task and problem types, paired-sample t-tests indicated that there was a significant difference for problem type (t (157) = -2.053, $p \leq .05$) and that personal appeals were used more for people-focused problems (M = 1.039, SD = .105) than for task-focused problems (M= 1.022, SD= .063). Given the interpersonal nature of these two problems, it is understandable that the leaders thought drawing on personal relationships was more appropriate to use as an influence tactic than for the task-focused situations. There was not a significant difference in the use of personal appeals between the two tasks.

[Insert Table 8 about Here]

Exchange

Table 9 contains the results of the series of ANOVAs and ANCOVAs conducted to evaluate the use of exchange tactics for each of the four problems. For exchange tactics, a significant main effect was observed for the innovation task, people-focused problem for network size (F(1,149) = 5.434, $p \leq .05$) and an interaction between network size and interconnectedness was observed for both the restructuring task, people-focused problem (F(1,149) = 4.949, $p \leq .05$), and the innovation task, task-focused problem

($F(1,149) = 4.175$, $p \leq .05$). Number of business classes taken was a significant covariate for the restructuring task, people-focused problem ($F(1,149) = 6.462$, $p \leq .05$), while number of marketing classes taken was a significant covariate for both innovation task problems, task-focused ($F(1,149) = 7.714$, $p \leq .01$), and people-focused ($F(1,150) = 13.522$, $p \leq .01$). Given the similarity of the exchange tactic to a business transaction or an attempt to "sell" your goal with incentives, it is understandable that exposure to business and marketing tactics would both be positively related to the use of exchange as an influence tactic.

The cell means for the main effect for network size indicate that exchange tactics were used more for small teams ($M = 1.282$, $SE = .060$) than for larger teams ($M = 1.082$, $SE = .061$). Again, as was the case with other tactics that require a personalized argument, such as personal appeals, the cost of using the tactic is likely a primary driver in it being used less frequently for larger teams. As demonstrated by the interactions, however, the effect of team size may vary as a function of the team's connectedness. For both problems, evaluating the cell means indicates that the effect of team size is even stronger when the team is highly connected. For the restructuring, people-focused problem, when the team was less connected, exchange was used similarly for small teams ($M = 1.223$, $SE = .096$) and large teams ($M = 1.317$, $SE = .097$), while for more connected teams, it was used more for small teams ($M = 1.465$, $SE = .096$) than large teams ($M = 1.130$, $SE = .097$). The pattern held for the innovation task, task-focused problem such that when the team was less connected, exchange was used similarly for small teams ($M = 1.148$, $SE = .094$) and large teams ($M = 1.226$, $SE = .095$), while for more connected teams, it was

used more for small teams (M = 1.336, SE = .094) than large teams (M = 1.028, SE = .095).

In addition to the resource costs associated with using exchange for a large team, the more connected the team is, the less likely the leader may be to see them as a group of individuals rather than an intertwined entity – exaggerating the perception that working out an individualized exchange with each would require significant time. Additionally, as was the case with apprising and personal appeals, more connections may make the leader weary of using personalized bargains where individuals might socially compare with one another.

Paired-sample t-tests evaluating the differential use of exchange tactics between task and problem types indicated that there was a significant difference between task type (t (157) = 2.107, $p \leq .05$) but not between problem type. Specifically, exchange tactics were used more for the restructuring problem (M = 1.280, SD = .520) than for the innovation problem (M = 1.185, SD = .496). The common conception of creativity and innovation is that a manager should facilitate them in a "hands off" manner. Although research indicates that some structure is good for creativity, a student acting as a leader would likely perceive micro-managing with contingent rewards to not be appropriate for a situation calling for innovation.

[Insert Table 9 about Here]

Legitimating Tactics

Results for the ANOVAs and ANCOVAs examining the use of legitimating tactics are presented in Table 10. There were no main effects for network characteristics; however there was a significant interaction between interconnectedness and

embeddedness ($F(1,150) = 4.663$, $p \leq .05$) for the restructuring task, task-focused problem. There were no significant covariates for this problem. The cell means indicate that the effect of embeddedness on the use of legitimating tactics varies with regard to team interconnectedness. Specifically, when teams are less connected, legitimating tactics are used more for less embedded teams ($M = 1.417$, $SE = .070$) than for more embedded teams ($M = 1.248$, $SE = .071$), while for more connected teams, legitimating tactics are used more for more embedded teams ($M = 1.333$, $SE = .070$) than less embedded teams ($M = 1.197$, $SE = .071$). It appears, then, that legitimating tactics are used when teams are either less connected and not embedded, or more connected and embedded.

Legitimating tactics involves the demonstration or assertion of authority. In a team that is disconnected and weakly bonded, a leader may perceive that the team is in need of a strong authoritative presence to guide them. For teams that are highly connected and have strong bonds between individuals, however, the leader may feel more like an outsider to the tightly bound team. As an outsider to the tight unit, the leader may perceive that they must act ON the network in an authoritative manner, rather than WITH the network. Along these lines, there was a significant difference in the use of legitimating tactics between the task-focused problems and the people-focused problems ($t\ (157) = -5.093$, $p \leq .01$) and it was used more for the people-focused problem ($M = 1.416$, $SD = .443$) than task-focused problems ($M = 1.246$, $SD = .293$). The people-focused problems in each task involved interpersonal disruptions that the leader may have perceived their role to be similar to a negotiator in which they are to restore order – a position that would require them to assert their authority in the situation.

[Insert Table 10 about Here]

Ingratiation

The results of the ANOVAS and ANCOVAs run to evaluate the use of ingratiation across problems are presented in Table 11. As can be seen in the table, there were no significant effects for network characteristics for use of ingratiation. Ingratiation requires the leader to know things about the team members in order to flatter them. For the simulation, the leaders were only presented brief bio-sketches which may not have been enough for them to be able to engage in ingratiation with their teams. A paired-sample t-test did indicate, however, that ingratiation was used differentially between problem types (t (157) = -3.812, $p \leq .01$). Ingratiation was used more for the people-focused problems (M = 1.141, SD = .220) than for the task-focused problems (M = 1.068, SD = .151). As was the case with personal appeals, using an individualized, personally engaging tactic may be perceived as more appropriate for interpersonal problems, than for task-oriented problems.

[Insert Table 11 about Here]

Pressure

The results of the ANOVAs and ANCOVAs run to evaluate the use of pressure tactics across problems are presented in Table 12. As can be seen in the table, there were no significant effects for network characteristics for the use of pressure tactics. There may be no differences because pressure was likely not used very frequently due to its social undesirability (Yukl, 2009). There was a significant difference, however, between the different problem types (t (157) = -6.014, $p \leq .01$). Pressure was used more for the people-focused problems (M = 1.517, SD = .632) than for the task-focused problems (M = 1.218, SD = .386). As was the case with legitimating tactics, it may be that the people-

focused problems called for more enforcement of social order and an authoritative reaction than a more participative style.

[Insert Table 12 about Here]

Discussion

Limitations

Before turning to the broader findings and implications of the present study, it is critical to address a few limitations. First, the present study utilized an experimental design and thus lacks the generalizability that the findings of a real-world study would have. Although this approach was necessary for the manipulation of network structures to occur, there are limitations in making judgments with regard to how leaders would engage in influence behaviors in a real organizational setting as opposed to a paper and pencil task. Along these lines, the approach that leaders would take in isolation may be different than the approach they would actually take while working in-person with team members. However, it is believed that the scenario and descriptions of team members were realistic and engaging enough to elicit realistic responses from.

In addition to the limitations of evaluating network effects outside of a real-world network, the use of an undergraduate student sample may bring into question whether findings can be generalized to those in actual leadership positions. Although there is reason to believe that the implications of being in an actual leadership position may bring with it different perspectives and restrictions on behavior, it is believed that the tasks the student sample was presented with were within their capabilities but were still representative as potential situations that a leader would be faced with. It is

recommended, however, that the current study be expanded upon by evaluating real-world leaders.

In addition to the limitations presented due to the experimental nature of the study, there are also limitations to the way in which networks were operationalized. Specifically, connections between individuals are more complex and nuanced than the manner in which they were presented and manipulated in the present study. Additionally, there are several other network characteristics that were not looked at in this study. It should be noted, however, that this study is intended as a first look into the relationship between network characteristics and leadership and the characteristics selected for evaluation were more straight-forward and easily manipulated in an experimental setting. Future studies, however, should investigate other network characteristics (e.g., centrality, clustering) as well as considering other, more complex, social processes that occur within the network (e.g., the use of social capital).

It should also be noted that we only looked at two task domains – organizational restructuring and innovation, and two types of problems that leaders might be faced with. Although they provided valuable insight into the inconsistency with which individuals used specific tactics across types of problems, and perspective on how different influence tactics may be more appropriate in different domains, they were by no means exhaustive. Additionally, both scenarios were at the same "level" of leadership. As research by Vecchio and Sussman (1991) indicated, use of influence tactics may vary with regard to the level of leadership a person was at (e.g., middle or senior managers). Additional research may indicate that these results also vary with regard to level of leadership.

Finally, with regard to influence tactics, it should be noted that we evaluated the use of each tactic separately. However, as demonstrated by Falbe and Yukl (1992), leaders often use a variety of influence tactics over the course of accomplishing an objective. Although it would be valuable to investigate the combinations that the leaders used for each problem, it was beyond the scope of the present research question which was to investigate differences in the use of the discrete tactics. We turn now to the general conclusions emerging from the present study.

General Results

Even bearing the aforementioned limitations in mind, it is believed that the present study makes several significant contributions. Before turning to specific findings, it is important to note that both hypotheses were generally supported. The first hypothesis asserted that leaders would use the influence tactics differentially based on the context they were in. Given the relative inconsistency with which different tactics were used across the four different problems, and different types of networks, it can be concluded that the context does, in fact, impact the use of different influence tactics. The second hypothesis asserted that one aspect of the context, the characteristics of the network they were in, would provide information on opportunities and restrictions for the use of different tactics and would thus be related to the differential use of the tactics based on the different characteristics. Based on the patterns of tactics used across problem types and types of networks, the general assumption that leaders were processing information about networks when deciding which tactic to use, seems to hold. We turn now to specific results indicating support for conditions that leaders were likely considering when determining which tactic to use.

Prior research on the use of influence tactics has suggested that there are several factors that leaders may consider when determining which tactic to use. Generally, research by Steensma (2007) suggests that that leaders are making a utility assessment when evaluating which tactic to use, and more specifically, Yukl and Tracey (1992) suggest that the frequency of use and ultimate effectiveness of different tactics will be related to its 1) consistency with social norms, 2) the agent possessing the appropriate power base or skill set to use the tactic, 3) the appropriateness of the tactic for the given objective, 4) level of resistance expected from the target for that given tactic, and 5) cost (e.g., time, resources, negative social outcomes) of using the tactic in relation to the benefits. It was anticipated that several of the factors that Steensma (2007) and Yukl and Tracey (1992) refer to would be related to the way in which leaders use network information to make tactic decisions, and the results obtained in this study provide preliminary evidence that this may, in fact, be the case. Based on the results, it appears that leaders were using network and problem information to make decisions about influence tactics based on – 1) resource costs, 2) interpersonal costs, 3) logistical opportunities, 4) indicators about relevant team processes, and 5) relevance to the given objective.

The first general assessment that leaders appeared to make was the resource cost in using different tactics. Evidence for this can be found in instances in which tactics requiring the leader to make specific arguments to individuals were used. Main effect and interaction effects for consultation, apprising, personal appeals, and exchange tactics all indicated that size played a role in whether the tactic was used. Specifically, on the whole these tactics were less likely to be used in larger teams. Examining the nature of each of

these tactics indicates that all of them require the leader to present an individualized argument to the different members of the team. Taking the time to present individual arguments to team members is a very resource intensive activity and given that those tactics that require it were consistently used only when teams were smaller indicates that leaders were taking network size into consideration. It should be noted that ingratiation also requires individualized influence interactions, however since individuals were only given short bio-sketches of their team members, there may have been limited opportunity to use this tactic.

The second assessment that it appears leaders were making was the likely interpersonal costs of using different tactics. As Yukl (2009) points out, some tactics are, by their nature, less socially acceptable (e.g., pressure), however there may also be inadvertent social implications of using different tactics. The pattern of results provides some insight into the considerations that leaders may be making about the social appropriateness of different tactics within different networks. Both apprising and personal appeals were generally used less in networks that had more embedded relationships and exchange tactics were used less in large, highly connected networks. The commonality between these tactics is that they not only involve personalized arguments, but that the arguments involve some sort of "deal" that the leader is offering. Apprising involves the leader describing how compliance may personally help the target, personal appeals brings personal friendships and favors into play, and exchange is an explicit offer to reciprocate should the target comply. In each of these cases, the leader may be concerned that close and strong ties among individuals will lead to social comparison with regard to what the leader has presented to each member. In essence, it

becomes much more difficult and more socially risky for the leader to use the tactic. Again, ingratiation would likely demonstrate similar effects under conditions where the leader had more information about members to appropriately use the tactic.

The third assessment that leaders seemed to make was whether characteristics of the network presented logistical opportunities. In each case it was the strategic use of connections within the networks, but the reason behind their use is likely different. Specifically, significant interactions for the use of inspirational appeals indicate that interconnectedness may play a facilitating role in distributing a vision to the team. For consultation and collaboration, it appears that the leaders may have utilized connection "hubs" when teams were larger as a means to engage in consultation and collaboration without the high resource cost of doing it individually. Finally, coalition tactics were more likely to be used in larger, interconnected teams. In smaller teams, looking for coalitions is less salient, but in larger teams it appears that leaders would utilize connections (aka coalitions) if they were there. In all cases, it appears that the leader was making a strategic assessment of the influence opportunities in the networks that they were presented with.

The fourth, although somewhat less direct, assessment that leaders may be making are assumptions about team processes based on network characteristic. Two processes that the leader may gain insight into based on network characteristics are the team's climate and the team's task and interpersonal cohesion. The results for the use of collaboration, rational persuasion, inspirational appeals, legitimating tactics, and coalition tactics provide preliminary evidence for this argument. Specifically, it was found that collaboration was used more when networks were more interconnected. The

interconnectedness of the network may have led to the perception that the team valued collaboration on projects, or had a climate for collaboration and thus increased the likelihood that the leader would utilize collaboration as an influence tactic. Similarly, rational persuasion was used less when teams were small and had dense and embedded networks which the leader may have interpreted as indicators of a close, informal network. The resulting perceptions of a more informal climate may have made using rational arguments less desirable.

In addition to indicators of team climate, characteristics of the network may also provide information about the team's task and social cohesion. Given that inspirational appeals and legitimating tactics were both used in more disperse networks, the leader may be interpreting disconnectedness as an indicator that the team is lacking in task cohesion and thus may use an inspiring vision or an argument for the legitimacy of the request to align team members in accomplishing the task. Similarly the leader may interpret disconnectedness in large teams as a lack of social cohesion which may have lead to an increased use of coalition tactics as a proactive approach to creating connections within the team.

The final assessment the leader appears to have made, was appropriateness of the influence tactic to the given problem that they were responding to. Evidence for this assessment can be seen in the differential use of the influence tactics across task and problem types. These effects are particularly meaningful because they were paired comparisons for each individual, indicating that individuals do not necessarily have an "influence type" but rather adapt their tactics to the situation. Differences in tactics for problem type were found for collaboration, coalition tactics, apprising, personal appeals,

legitimating tactics, ingratiation, and pressure with the first two being used more for task-oriented problems and the last five being used more for the people-focused problem. Collaboration and coalition tactics were likely deemed more appropriate for the task-oriented problem because the interpersonal problems required more of an effort to restore social order among individuals rather than collaboration or calling on specific coalitions – an action that may have been particularly detrimental in a tenuous social situation. For the people-focused tasks, apprising, personal appeals, and ingratiation would be appropriate as a means to level with individuals personally in dealing with social problems, while legitimating tactics and pressure would be used as authoritative efforts to restore social order. Although there were no influence tactics that were used more than others for the innovation task, consultation, coalition tactics, apprising and exchange were used predominantly in the restructuring scenario. Consultation and coalition tactics may have been deemed more appropriate as a means to bridge the gap between teams in the reorganization. Relative to the innovation task, apprising was likely used more for the restructuring task because career position would be more salient. Additionally, it is understandable that exchange would be used less for innovation tactics because of the common conception that micro-managing and contingent rewards are harmful to creativity.

Were there no assessment of contextual factors on the part of the leader it is likely that there would have been no differences in the use of influence tactics across different tasks and problems. Additionally, if leaders did not take into consideration the characteristics of their networks we would not have seen differences in the use of influence tactics across different networks. Therefore, we believe that leaders do, in fact,

use influence tactics differently based on the context, and do evaluate specific characteristics of their social context when selecting which influence tactic to use. An important point to make based on these findings is that we should be weary of generalized assumptions about the effectiveness of different tactics. Rather, the effectiveness of different tactics may depend on the context that the leader is in.

Implications for Research and Practice

The present study makes several important contributions to both research and practice. With regard to research, we have made methodological contributions to both research on networks and influence tactics. This study is unique in that influence tactics have been evaluated via a simulation and in observational, content-analysis manner. We believe that this method is valuable in extending the experimental evaluation of influence tactics. Additionally, this is the first time that an experiment has been conducted on leadership in networks in which network characteristics were manipulated. By utilizing bio-graphical sketches it was possible to put leaders into different network situations without introducing the confounds of each person being in a completely different interpersonal setting.

The theoretical contributions of the current effort include expanding our understanding of how the situation impacts the use of different influence tactics and specifically identified factors that leaders may evaluate in determining which tactics to use. Along similar lines, this also further advances our broader understanding of how the social context that a leader operates in may impact their decisions and behaviors. Finally, and potentially most important, is that our results challenge the assumptions in much of

the influence tactic literature that certain tactics are consistently more "effective" or more appropriate than others. Rather, it is clear that there are contextual variables that must be considered when evaluating the effectiveness or appropriateness of different influence tactics.

Given that there were no performance outcomes in the present study, results are more descriptive than prescriptive. However, with regard to practical implications, the assumption may be made that use may be related to effectiveness. Under this assumption, the results could be interpreted to provide examples of conditions under which it may be effective for a leader to use the different tactics. Additionally, the findings from the present study could be evaluated along with other studies focusing on follower outcomes to help build management strategies for different contexts.

In sum, the findings emanating from the present study indicate that the social context that leaders operate in does play a role in the influence strategies that they use, and, more broadly, that the selection of influence strategies is impacted by the context in which they are used.

Table 1
Definitions of Yukl's 11 Proactive Influence Tactics

Tactic	*Definition*
Rational Persuasion	The agent uses logical arguments and factual evidence to show a proposal or request is feasible and relevant for attaining important task objectives
Apprising	The agent explains how carrying out a request or supporting a proposal will benefit the target personally or help advance the target person's career
Inspirational Appeals	The agent makes an appeal to values and ideals or seeks to arouse the target person's emotions to gain commitment for a request or proposal
Consultation	The agent encourages the target to suggest improvements in a proposal or to help plan an activity or change for which the target person's support and assistance are desired
Collaboration	The agent offers to provide relevant resources and assistance if the target will carry out a request or approve a proposed change
Ingratiation	The agent uses praise and flattery before or during an influence attempt, or expresses confidence in the target's ability to carry out a difficult request
Personal Appeals	The agent asks the target to carry out a request or support a proposal out of friendship, or asks for a personal favor before saying what it is
Exchange	The agent offers an incentive, suggests an exchange of favors, or indicates willingness to reciprocate at a later time if the target will do what the agent requests
Coalition Tactics	The agent seeks the aid of others to persuade the target to do something, or uses the support of others as a reason for the target to agree
Legitimating Tactics	The agent seeks to establish the legitimacy of a request or to verify authority to make it by referring to rules, policies, contracts or precedent
Pressure	The agent uses demands, threats, frequent checking, or persistent reminders to influence the target to carry out a request

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Table 2

Analysis of Covariance Results for Inspirational Appeals

	Restructuring Task Task-Focused Prob.				Restructuring Task People-Focused Prob.				Innovation Task Task-Focused Prob.				Innovation Task People-Focused Prob.			
	F	*df*	*p*	η^2	*F*	*df*	*p*	η^2	*F*	*df*	*p*	η^2	*F*	*df*	*p*	η^2
Covariates																
ACT score	10.529	1, 149	0.001	0.066	2.813	1, 149	0.096	0.019								
Main Effects																
Size	1.870	1, 149	0.174	0.012	0.615	1, 149	0.434	0.004	1.812	1, 150	0.180	0.012	0.187	1, 150	0.666	0.001
Interconnectedness	1.236	1, 149	0.268	0.008	4.015	1, 149	0.047	0.026	1.825	1, 150	0.179	0.012	1.336	1, 150	0.250	0.009
Embeddedness	6.696	1, 149	0.011	0.043	1.026	1, 149	0.313	0.007	2.934	1, 150	0.089	0.019	1.156	1, 150	0.284	0.008
Interactions																
Size x Interconnectedness	0.153	1, 149	0.696	0.001	0.215	1, 149	0.644	0.001	1.006	1, 150	0.317	0.007	2.542	1, 150	0.113	0.017
Size x Embeddedness	0.489	1, 149	0.485	0.003	1.937	1, 149	0.166	0.013	0.978	1, 150	0.324	0.006	1.530	1, 150	0.218	0.010
Interconn. x Embedd.	0.522	1, 149	0.471	0.003	5.505	1, 149	0.020	0.036	0.387	1, 150	0.535	0.003	0.209	1, 150	0.648	0.001
Size x Interconn. x Embedded.	5.524	1, 149	0.020	0.036	0.819	1, 149	0.367	0.005	1.877	1, 150	0.173	0.012	0.036	1, 150	0.850	0.000

Note: F - F Ratio; *df* - Degrees of Freedom; *p* - Significance Level; η^2 - Effect Size (partial eta squared).

Table 3

Analysis of Covariance Results for Consultation

	Restructuring Task Task-Focused Prob.				Restructuring Task People-Focused Prob.				Innovation Task Task-Focused Prob.				Innovation Task People-Focused Prob.			
	F	*df*	*p*	η^2	*F*	*df*	*p*	η^2	*F*	*df*	*p*	η^2	*F*	*df*	*p*	η^2
Covariates																
Social Expressivity													10.602	1, 147	0.001	0.067
Social Sensitivity													7.859	1, 147	0.006	0.051
Social Control													4.550	1, 147	0.035	0.030
Main Effects																
Size	0.001	1, 150	0.974	0.000	0.037	1, 150	0.847	0.000	0.037	1, 150	0.847	0.000	0.837	1, 147	0.362	0.006
Interconnectedness	0.133	1, 150	0.716	0.001	0.509	1, 150	0.477	0.003	0.306	1, 150	0.581	0.002	0.928	1, 147	0.337	0.006
Embeddedness	0.031	1, 150	0.861	0.000	0.234	1, 150	0.629	0.002	1.130	1, 150	0.289	0.007	2.303	1, 147	0.131	0.015
Interactions																
Size x Interconnectedness	1.039	1, 150	0.310	0.007	3.254	1, 150	0.073	0.021	0.373	1, 150	0.542	0.002	4.275	1, 147	0.040	0.028
Size x Embeddedness	0.335	1, 150	0.563	0.002	1.512	1, 150	0.221	0.010	0.154	1, 150	0.696	0.001	3.486	1, 147	0.064	0.023
Interconn. x Embedd.	1.997	1, 150	0.160	0.013	1.649	1, 150	0.201	0.011	0.213	1, 150	0.645	0.001	0.029	1, 147	0.865	0.000
Size x Interconn. x Embedded.	0.001	1, 150	0.976	0.000	0.373	1, 150	0.543	0.002	0.720	1, 150	0.398	0.005	0.161	1, 147	0.689	0.001

Note: F - F Ratio; *df* - Degrees of Freedom; *p* - Significance Level; η^2 - Effect Size (partial eta squared).

Table 4

Analysis of Variance Results for Collaboration

	Restructuring Task Task-Focused Prob.				Restructuring Task People-Focused Prob.				Innovation Task Task-Focused Prob.				Innovation Task People-Focused Prob.			
	F	*df*	*p*	η^2	*F*	*df*	*p*	η^2	*F*	*df*	*p*	η^2	*F*	*df*	*p*	η^2
Covariates																
no significant covariates																
Main Effects																
Size	0.889	1, 150	0.347	0.006	0.002	1, 150	0.967	0.000	0.904	1, 150	0.343	0.006	0.014	1, 150	0.905	0.000
Interconnectedness	0.049	1, 150	0.825	0.000	0.142	1, 150	0.707	0.001	3.770	1, 150	0.054	0.025	0.046	1, 150	0.830	0.000
Embeddedness	1.307	1, 150	0.255	0.009	0.412	1, 150	0.522	0.003	0.258	1, 150	0.612	0.002	0.821	1, 150	0.366	0.005
Interactions																
Size x Interconnectedness	0.221	1, 150	0.639	0.001	1.475	1, 150	0.226	0.010	0.026	1, 150	0.872	0.000	0.004	1, 150	0.951	0.000
Size x Embeddedness	2.632	1, 150	0.107	0.017	2.189	1, 150	0.141	0.014	0.016	1, 150	0.900	0.000	0.227	1, 150	0.634	0.002
Interconn. x Embedd.	0.000	1, 150	0.983	0.000	1.038	1, 150	0.310	0.007	0.008	1, 150	0.928	0.000	1.264	1, 150	0.263	0.008
Size x Interconn. x Embedded.	0.889	1, 150	0.347	0.006	0.702	1, 150	0.404	0.005	0.441	1, 150	0.508	0.003	1.861	1, 150	0.175	0.012

Note: F - F Ratio; *df* - Degrees of Freedom; *p* - Significance Level; η^2 - Effect Size (partial eta squared).

Table 5

Analysis of Covariance Results for Coalition Tactics

	Restructuring Task Task-Focused Prob.				Restructuring Task People-Focused Prob.				Innovation Task Task-Focused Prob.				Innovation Task People-Focused Prob.			
	F	*df*	*p*	η^2	*F*	*df*	*p*	η^2	*F*	*df*	*p*	η^2	*F*	*df*	*p*	η^2
Covariates																
Number of Business Classes	6.114	1, 149	0.015	0.039												
Need for Cognition					5.417	1, 149	0.021	0.035								
Types of Work Experience									5.488	1, 149	0.020	0.036				
ACT Score													7.153	1, 149	0.008	0.046
Main Effects																
Size	0.661	1, 149	0.417	0.004	0.001	1, 149	0.969	0.000	0.703	1, 149	0.403	0.005	0.131	1, 149	0.718	0.001
Interconnectedness	0.550	1, 149	0.459	0.004	2.260	1, 149	0.135	0.015	0.038	1, 149	0.845	0.000	3.400	1, 149	0.067	0.022
Embeddedness	0.595	1, 149	0.442	0.004	1.238	1, 149	0.268	0.008	0.609	1, 149	0.436	0.004	0.837	1, 149	0.362	0.006
Interactions																
Size x Interconnectedness	0.708	1, 149	0.401	0.005	0.001	1, 149	0.978	0.000	3.762	1, 149	0.054	0.025	0.124	1, 149	0.725	0.001
Size x Embeddedness	0.312	1, 149	0.577	0.002	1.271	1, 149	0.261	0.008	0.972	1, 149	0.326	0.006	0.505	1, 149	0.478	0.003
Interconn. x Embedd.	2.969	1, 149	0.087	0.020	3.283	1, 149	0.072	0.022	0.234	1, 149	0.629	0.002	0.043	1, 149	0.837	0.000
Size x Interconn. x Embedded.	2.670	1, 149	0.104	0.018	0.638	1, 149	0.426	0.004	0.102	1, 149	0.750	0.001	0.046	1, 149	0.831	0.000

Note: F - F Ratio; *df* - Degrees of Freedom; *p* - Significance Level; η^2 - Effect Size (partial eta squared).

Table 6

Analysis of Covariance Results for Rational Persuasion

	Restructuring Task Task-Focused Prob.				Restructuring Task People-Focused Prob.				Innovation Task Task-Focused Prob.				Innovation Task People-Focused Prob.			
	F	*df*	*p*	η^2	*F*	*df*	*p*	η^2	*F*	*df*	*p*	η^2	*F*	*df*	*p*	η^2
Covariates																
Wonderlic	3.387	1, 148	0.068	0.022												
Social Sensitivity	4.531	1, 148	0.035	0.030												
Main Effects																
Size	0.112	1, 148	0.738	0.001	2.009	1, 150	0.158	0.013	0.001	1, 150	0.971	0.000	1.311	1, 150	0.254	0.009
Interconnectedness	2.530	1, 148	0.114	0.017	0.265	1, 150	0.607	0.002	2.669	1, 150	0.103	0.018	0.705	1, 150	0.402	0.005
Embeddedness	0.192	1, 148	0.662	0.001	0.484	1, 150	0.488	0.003	0.032	1, 150	0.858	0.000	0.088	1, 150	0.768	0.001
Interactions																
Size x Interconnectedness	2.753	1, 148	0.099	0.018	0.265	1, 150	0.607	0.002	1.334	1, 150	0.250	0.009	0.492	1, 150	0.484	0.003
Size x Embeddedness	0.013	1, 148	0.908	0.000	0.043	1, 150	0.837	0.000	0.095	1, 150	0.758	0.001	2.174	1, 150	0.142	0.014
Interconn. x Embedd.	4.162	1, 148	0.043	0.027	4.044	1, 150	0.046	0.026	2.958	1, 150	0.088	0.019	0.333	1, 150	0.565	0.002
Size x Interconn. x Embedded.	0.007	1, 148	0.935	0.000	5.381	1, 150	0.022	0.035	0.418	1, 150	0.519	0.003	0.929	1, 150	0.337	0.006

Note: F - F Ratio; *df* - Degrees of Freedom; *p* - Significance Level; η^2 - Effect Size (partial eta squared).

Table 7

Analysis of Covariance Results for Apprising

	Restructuring Task Task-Focused Prob.				Restructuring Task People-Focused Prob.				Innovation Task Task-Focused Prob.				Innovation Task People-Focused Prob.			
	F	*df*	*p*	η^2	*F*	*df*	*p*	η^2	*F*	*df*	*p*	η^2	*F*	*df*	*p*	η^2
Covariates																
Year in College					7.63	1, 149	0.006	0.049					5.741	1, 149	0.018	0.037
Main Effects																
Size	0.001	1, 150	0.980	0.000	4.321	1, 149	0.039	0.028	0.032	1, 150	0.859	0.000	5.421	1, 149	0.021	0.035
Interconnectedness	1.875	1, 150	0.173	0.012	0.215	1, 149	0.644	0.001	0.000	1, 150	0.995	0.000	0.111	1, 149	0.739	0.001
Embeddedness	1.875	1, 150	0.173	0.012	0.237	1, 149	0.627	0.002	6.770	1, 150	0.010	0.043	2.672	1, 149	0.104	0.018
Interactions																
Size x Interconnectedness	0.728	1, 150	0.395	0.005	0.001	1, 149	0.969	0.000	1.666	1, 150	0.199	0.011	5.389	1, 149	0.022	0.035
Size x Embeddedness	0.483	1, 150	0.488	0.003	0.339	1, 149	0.561	0.002	0.596	1, 150	0.442	0.004	0.016	1, 149	0.898	0.000
Interconn. x Embedd.	0.508	1, 150	0.477	0.003	0.137	1, 149	0.712	0.001	0.117	1, 150	0.733	0.001	0.770	1, 149	0.382	0.005
Size x Interconn. x Embedded.	0.697	1, 150	0.405	0.005	2.082	1, 149	0.151	0.014	0.485	1, 150	0.487	0.003	1.189	1, 149	0.277	0.008

Note: F - F Ratio; *df* - Degrees of Freedom; *p* - Significance Level; η^2 - Effect Size (partial eta squared).

Table 8

Analysis of Covariance Results for Personal Appeals

	Restructuring Task Task-Focused Prob.				Restructuring Task People-Focused Prob.				Innovation Task Task-Focused Prob.				Innovation Task People-Focused Prob.			
	F	*df*	*p*	η^2	*F*	*df*	*p*	η^2	*F*	*df*	*p*	η^2	*F*	*df*	*p*	η^2
Covariates																
Extraversion													8.259	1, 149	0.005	0.053
Main Effects																
Size	0.548	1, 150	0.460	0.004	0.309	1, 150	0.579	0.002	0.720	1, 150	0.397	0.005	3.713	1, 149	0.056	0.024
Interconnectedness	1.635	1, 150	0.203	0.011	2.053	1, 150	0.154	0.014	0.650	1, 150	0.421	0.004	0.107	1, 149	0.744	0.001
Embeddedness	3.205	1, 150	0.075	0.021	0.046	1, 150	0.831	0.000	0.000	1, 150	1.000	0.000	0.133	1, 149	0.716	0.001
Interactions																
Size x Interconnectedness	0.065	1, 150	0.798	0.000	0.037	1, 150	0.848	0.000	0.650	1, 150	0.421	0.004	0.131	1, 149	0.717	0.001
Size x Embeddedness	7.916	1, 150	0.006	0.050	0.359	1, 150	0.550	0.002	0.000	1, 150	1.000	0.000	0.029	1, 149	0.864	0.000
Interconn. x Embedd.	0.080	1, 150	0.778	0.001	2.178	1, 150	0.142	0.014	0.002	1, 150	0.966	0.000	7.964	1, 149	0.005	0.051
Size x Interconn. x Embedded.	1.567	1, 150	0.213	0.010	0.022	1, 150	0.881	0.000	0.002	1, 150	0.966	0.000	0.605	1, 149	0.438	0.004

Note: F - F Ratio; *df* - Degrees of Freedom; *p* - Significance Level; η^2 - Effect Size (partial eta squared).

Table 9

Analysis of Covariance Results for Exchange

	Restructuring Task Task-Focused Prob.				Restructuring Task People-Focused Prob.				Innovation Task Task-Focused Prob.				Innovation Task People-Focused Prob.			
	F	*df*	*p*	η^2	*F*	*df*	*p*	η^2	*F*	*df*	*p*	η^2	*F*	*df*	*p*	η^2
Covariates																
Number of Business Classes					6.462	1, 149	0.012	0.042								
Number of Marketing Classes									7.714	1, 149	0.006	0.049	13.522	1, 149	0.000	0.083
Main Effects																
Size	0.271	1, 150	0.604	0.002	1.554	1, 149	0.215	0.010	1.470	1, 149	0.227	0.010	5.434	1, 149	0.021	0.035
Interconnectedness	0.931	1, 150	0.336	0.006	0.079	1, 149	0.779	0.001	0.003	1, 149	0.960	0.000	0.028	1, 149	0.867	0.000
Embeddedness	1.998	1, 150	0.160	0.013	0.440	1, 149	0.508	0.003	0.223	1, 149	0.637	0.001	0.935	1, 149	0.335	0.006
Interactions																
Size x Interconnectedness	0.262	1, 150	0.610	0.002	4.949	1, 149	0.028	0.032	4.175	1, 149	0.043	0.027	0.228	1, 149	0.634	0.002
Size x Embeddedness	0.352	1, 150	0.554	0.002	1.602	1, 149	0.208	0.011	0.002	1, 149	0.961	0.000	0.284	1, 149	0.595	0.002
Interconn. x Embedd.	0.012	1, 150	0.912	0.000	0.006	1, 149	0.938	0.000	0.739	1, 149	0.391	0.005	1.801	1, 149	0.182	0.012
Size x Interconn. x Embedded.	0.192	1, 150	0.662	0.001	0.018	1, 149	0.894	0.000	0.065	1, 149	0.800	0.000	0.269	1, 149	0.604	0.002

Note: F - F Ratio; *df* - Degrees of Freedom; *p* - Significance Level; η^2 - Effect Size (partial eta squared).

Table 10

Analysis of Variance Results for Legitimating Tactics

	Restructuring Task Task-Focused Prob.				Restructuring Task People-Focused Prob.				Innovation Task Task-Focused Prob.				Innovation Task People-Focused Prob.			
	F	*df*	*p*	η^2	*F*	*df*	*p*	η^2	*F*	*df*	*p*	η^2	*F*	*df*	*p*	η^2
Covariates																
no significant covariates																
Main Effects																
Size	0.007	1, 150	0.933	0.000	0.204	1, 150	0.652	0.001	0.083	1, 150	0.774	0.001	0.223	1, 150	0.637	0.001
Interconnectedness	0.898	1, 150	0.345	0.006	0.107	1, 150	0.744	0.001	2.287	1, 150	0.133	0.015	0.104	1, 150	0.747	0.001
Embeddedness	0.054	1, 150	0.816	0.000	0.113	1, 150	0.737	0.001	0.131	1, 150	0.718	0.001	0.588	1, 150	0.444	0.004
Interactions																
Size x Interconnectedness	0.015	1, 150	0.904	0.000	0.512	1, 150	0.475	0.003	0.331	1, 150	0.566	0.002	0.429	1, 150	0.514	0.003
Size x Embeddedness	0.345	1, 150	0.558	0.002	0.107	1, 150	0.744	0.001	0.331	1, 150	0.566	0.002	0.250	1, 150	0.618	0.002
Interconn. x Embedd.	4.663	1, 150	0.032	0.030	0.014	1, 150	0.907	0.000	1.623	1, 150	0.205	0.011	0.087	1, 150	0.769	0.001
Size x Interconn. x Embedded.	0.102	1, 150	0.749	0.001	0.541	1, 150	0.463	0.004	0.001	1, 150	0.980	0.000	0.315	1, 150	0.575	0.002

Note: F - F Ratio; *df* - Degrees of Freedom; *p* - Significance Level; η^2 - Effect Size (partial eta squared).

Table 11

Analysis of Variance Results for Ingratiation

	Restructuring Task Task-Focused Prob.				Restructuring Task People-Focused Prob.				Innovation Task Task-Focused Prob.				Innovation Task People-Focused Prob.			
	F	*df*	*p*	η^2	*F*	*df*	*p*	η^2	*F*	*df*	*p*	η^2	*F*	*df*	*p*	η^2
Covariates																
no significant covariates																
Main Effects																
Size	0.766	1, 150	0.383	0.005	0.129	1, 150	0.720	0.001	0.018	1, 150	0.892	0.000	1.553	1, 150	0.215	0.010
Interconnectedness	0.011	1, 150	0.917	0.000	0.006	1, 150	0.937	0.000	0.905	1, 150	0.343	0.006	0.188	1, 150	0.665	0.001
Embeddedness	0.113	1, 150	0.737	0.001	0.827	1, 150	0.364	0.005	1.743	1, 150	0.189	0.011	0.196	1, 150	0.658	0.001
Interactions																
Size x Interconnectedness	1.668	1, 150	0.199	0.011	0.843	1, 150	0.360	0.006	0.024	1, 150	0.877	0.000	0.371	1, 150	0.543	0.002
Size x Embeddedness	0.017	1, 150	0.898	0.000	0.176	1, 150	0.675	0.001	0.046	1, 150	0.831	0.000	0.939	1, 150	0.334	0.006
Interconn. x Embedd.	0.567	1, 150	0.453	0.004	0.037	1, 150	0.848	0.000	0.362	1, 150	0.548	0.002	0.025	1, 150	0.876	0.000
Size x Interconn. x Embedded.	1.484	1, 150	0.225	0.010	0.037	1, 150	0.848	0.000	0.942	1, 150	0.333	0.006	0.110	1, 150	0.740	0.001

Note: F - F Ratio; *df* - Degrees of Freedom; *p* - Significance Level; η^2 - Effect Size (partial eta squared).

Table 12

Analysis of Covariance Results for Pressure

	Restructuring Task Task-Focused Prob.				Restructuring Task People-Focused Prob.				Innovation Task Task-Focused Prob.				Innovation Task People-Focused Prob.			
	F	*df*	*p*	η^2	*F*	*df*	*p*	η^2	*F*	*df*	*p*	η^2	*F*	*df*	*p*	η^2
Covariates																
no significant covariates																
Main Effects																
Size	0.244	1, 150	0.622	0.002	0.004	1, 150	0.950	0.000	0.257	1, 150	0.613	0.002	0.174	1, 150	0.677	0.001
Interconnectedness	0.062	1, 150	0.804	0.000	1.116	1, 150	0.292	0.007	0.230	1, 150	0.632	0.002	0.068	1, 150	0.795	0.000
Embeddedness	0.589	1, 150	0.444	0.004	0.340	1, 150	0.560	0.002	0.004	1, 150	0.948	0.000	0.068	1, 150	0.795	0.000
Interactions																
Size x Interconnectedness	1.653	1, 150	0.200	0.011	1.017	1, 150	0.315	0.007	1.449	1, 150	0.231	0.010	1.004	1, 150	0.318	0.007
Size x Embeddedness	0.950	1, 150	0.331	0.006	0.001	1, 150	0.981	0.000	0.434	1, 150	0.511	0.003	1.311	1, 150	0.254	0.009
Interconn. x Embedd.	0.419	1, 150	0.519	0.003	0.132	1, 150	0.717	0.001	2.131	1, 150	0.146	0.014	0.008	1, 150	0.930	0.000
Size x Interconn. x Embedded.	0.649	1, 150	0.422	0.004	0.015	1, 150	0.902	0.000	1.271	1, 150	0.261	0.008	0.085	1, 150	0.772	0.001

Note: F - F Ratio; *df* - Degrees of Freedom; *p* - Significance Level; η^2 - Effect Size (partial eta squared).

Figure 1
Examples of team member biographical sketches

SWEET THING SALES AND MARKETING TEAM

Emily Walters
New Account Salesperson

Main Responsibilities
- Actively pursue new avenues through which to distribute our products
- Attend conferences to build interest in our products
- Sets up appointments and meets with potential distributors of our product
- Guides new accounts through initial contract process

Background
- been with the company 2 years
- 8 years of sales experience
- Batchelor' s degree from the University of Tulsa

Primary Contacts
- Works closely with Alexis Samuelson on new contracts, also on company softball team with her
- Meets regularly with James Hall to transfer new accounts to permanent account management
- Coordinates with Aubrey Matthews to establish distribution schedule with new accounts

James Hall
Account Manager

Main Responsibilities
- Correspond regularly with distributors of our product to answer questions and concerns
- Revise contracts as they reach the end of their term of agreement
- Monitor distributors with abnormally low volumes

Background
- been with the company 10 years
- 25 years of sales experience
- Associates' s degree from Texas State University

Primary Contacts
- Spends time working with Max Stevenson due to the large amount of correspondence with clients, also on recreation committee with Max
- Meets regularly with Emily Walters to transfer new contracts into his records
- Corresponds with Alexis Samuelson when revising contracts

Figure 2

Instructions for drawing their team network

TEAM MEMBER CONNECTIONS

In the space provided below please draw the network of connections, or relationships, of your current team members. An example is provided for how a network is drawn.

Example Work Team:

Employee A works closely with Employee B, Employee C, and Employee D

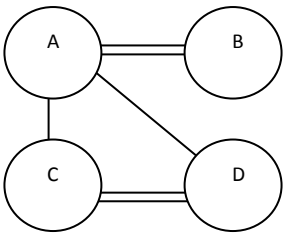
Employee C works closely with Employee A and Employee D

Employee D works closely with Employee A

Employee C and D have two connections – they work closely together and are on a social committee together

Employee A and B have two connections – they work closely together and are also friends

Example Network:



FILL IN YOUR TEAM'S NETWORK HERE:

The letters in the circles are your team members' initials

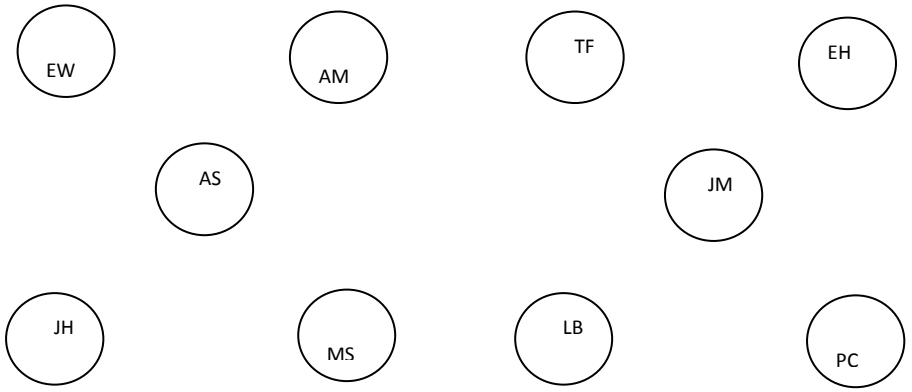
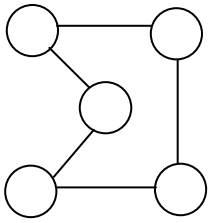
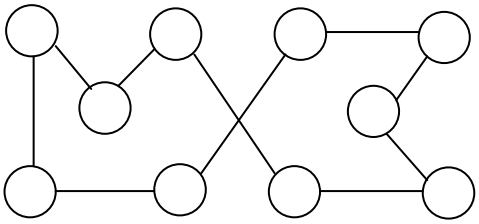
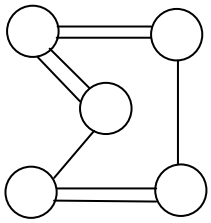
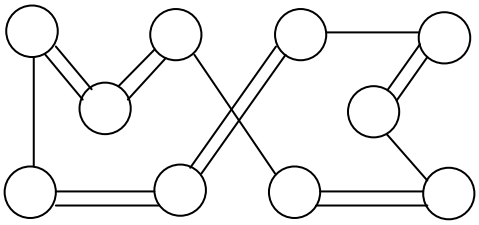
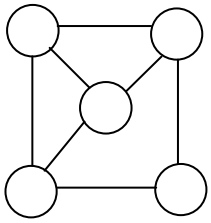
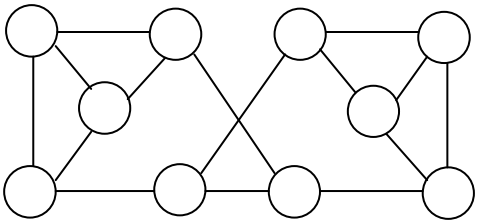
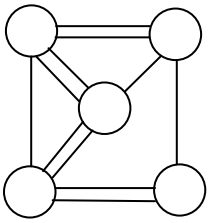
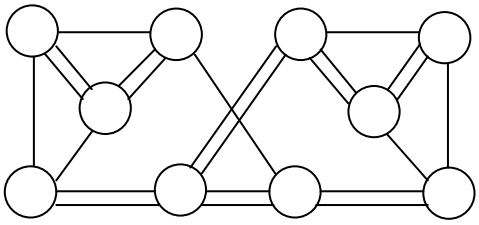


Figure 3
Diagrams of the eight network conditions

Small, Low Interconnectedness, Low Embeddedness 	Large, Low Interconnectedness, Low Embeddedness 
Small, Low Interconnectedness, High Embeddedness 	Large, Low Interconnectedness, High Embeddedness 
Small, High Interconnectedness, Low Embeddedness 	Large, High Interconnectedness, Low Embeddedness 
Small, High Interconnectedness, High Embeddedness 	Large, High Interconnectedness, High Embeddedness 

References

Balkundi, P., & Harrison, D. A. (2006). Ties, leaders, and time in teams: Strong inference about network structure's effects on team viability and performance. *Academy of Management Journal, 49,* 49-68.

Balkundi, P., & Kilduff, M. (2006). The ties that lead: A social network approach to leadership. *The Leadership Quarterly, 17,* 419-439.

Barsade, S. G. (2002). The ripple effect: Emotional contagion and its influence on group behavior. *Administrative Science Quarterly, 47,* 644-675.

Bartol, K. M., & Zhang, X. (2007). Networks and leadership development: Building linkages for capacity acquisition and capital accrual. *Human Resource Management Review, 17,* 388-401.

Becker, T. E., Billings, R. S., & Eveleth, D. M. (1997). Validity of scores on three attachment style scales: Exploratory and confirmatory evidence. *Educational and Psychological Measurement, 57,* 477-493.

Bennebroek-Gravenhorst, K. M., & Boonstra, J. J. (1998). The use of influence tactics in constructive change processes. *European Journal of Work and Organizational Psychology, 7,* 179-196.

Boies, K., & Howell, J. M. (2006). Leader-member exchange in teams: An examination of the interaction between relationship differentiation and mean LMX in explaining team-level outcomes. *The Leadership Quarterly, 17,* 246-257.

Brass, D. J., Butterfield, K. D., & Skaggs, B. C. (1998). Relationships and unethical behaviors: A social network perspective. *Academy of Management Review, 23,* 14-31.

Brass, D. J., Galaskiewicz, J., Greve, H. R., & Tsai, W. (2004). Taking stock of networks and organizations: A multilevel perspective. *Academy of Management Journal, 47,* 795-817.

Brennan, J. G., Miller, L. E., & Seltzer, J. (1992). Influence tactics and effectiveness. *The Journal of Social Psychology, 133,* 747-748.

Burke, C. S., Stagl, K. C., Klein, C., Goodwin, G. F., Salas, E., & Halpin, S. M. (2006). What type of leadership behaviors are functional in teams? A meta-analysis. *The Leadership Quarterly, 17,* 288-307.

Caccioppo, J. T., & Petty, R. E. (1982). The need for cognition. *Journal of Personality and Social Psychology, 42,* 116-131.

Carroll, G. R., & Teo, A. C. (1996). On the social networks of managers. *Academy of Management Journal, 39,* 421-440.

Cross, R., Cowen, A., Vertucci, L., & Thomas, R. J. (2009). Leading in a connected world: How effective leaders drive results through networks. *Organizational Dynamics, 38,* 93-105.

Cross, R., & Cummings, J. N. (2004). Tie and network correlates of individual performance in knowledge-intensive work. *Academy of Management Journal, 47,* 928-937.

Day, D. V., Gronn, P., & Salas, E. (2004). Leadership capacity in teams. *The Leadership Quarterly, 15,* 857-880.

Day, D. V., Gronn, P., & Salas, E. (2006). Leadership in team-based organizations: On the threshold of a new era. *The Leadership Quarterly, 17,* 211-216.

Denison, D. R. (1996). What *is* the difference between organization culture and organization climate? A native's point of view on a decade of paradigm wars. *Academy of Management Review, 21,* 619-654.

Elkins, T., & Keller, R. T. (2003). Leadership in research and development organizations: A literature review and conceptual framework. *The Leadership Quarterly, 14,* 587-606.

Falbe, C. M., & Yukl, G. (1992). Consequences for managers of using single influence tactics and combinations of tactics. *Academy of Management Journal, 35,* 638-652.

Fiedler, F. E. (1967). *A theory of leadership effectiveness.* New York: McGraw-Hill.

Friedrich, T. L., & Mumford, M. D. (2009). The effects of conflicting information on creative thought: A source of performance improvements or decrements? *Creativity Research Journal, 21,* 265-281.

Friedrich, T. L., Vessey, W. B., Schuelke, M. J., Ruark, G. A., & Mumford, M. D. (2009). A framework for understanding collective leadership: The selective utilization of leader and team expertise within networks. *The Leadership Quarterly, 20,* 933-958.

Frisch, M. B. & Jessop, N. S. (1989). Improving WAIS-R estimates with the Shipley-Hartford and The Wonderlic Personnel Test: Need to control for reading ability. *Psychological Reports, 65,* 923-928.

Goldberg, L. R. (1992). The development of markers for the Big Five factor structure. *Psychological Assessment, 4,* 26-42.

Graen, G., & Cashman, J. F. (1975). A role making model of leadership in formal organizations: A developmental approach. In J. G. Hunt & L. L. Larsons (Eds.) *Leadership Frontiers.* Kent, OH: Kent State University Press.

Graen, G., & Uhl-Bien, M. (1995). Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25

years: Applying a multi-level multi-domain approach. *The Leadership Quarterly, 6,* 219-247.

Guerin, B. (1995). Social influence in one-to-one and group situations: Predicting influence tactics from basic group processes. *The Journal of Social Psychology, 135,* 371-385.

Hawkins, K. A., Faraone, S. V., Pepple, J. R., Seidman, L. J., & Tsuang, M. T. (1990). WAIS-R validation of the Wonderlic Personnel Test as a brief intelligence masure in a psychiatric sample. *Psychological Assessment: A Journal of Consulting and Clinical Psychology, 2,* 198-201.

Hershey, P., & Blanchard, K. H. (1982). *The management of organizational behavior.* Englewood Cliffs, NJ: Prentice Hall.

Higgins, C. A., Judge, T. A., & Ferris, G. R. (2003). Influence tactics and work outcomes: A meta-analysis. *Journal of Organizational Behavior, 24,* 89-106.

Hochwater, W. A., Pearson, A. W., Ferris, G. R., Perrewe, P. L., & Ralston, D. A. (2000). A re-examination of Schriesheim and Hinkin's measure of upward influence. *Educational and Psychological Measurement, 60,* 755-771.

House, R. J. (1971). A path-goal theory of leader effectiveness. *Administrative Science Quarterly, 16,* 321-339.

House, R. J. (1996). Path-goal theory of leadership: Lessons, legacy, and a reformulated theory. *The Leadership Quarterly, 7,* 323-352.

Jensen, J. L. (2007). Getting one's way in policy debates: Influence tactics used in group decision-making settings. *Public Administration Review,67,* 216-227.

Kilduff, M., & Tsai, W. (2006). *Social Networks and Organizations.* Thousand Oaks, CA: Sage Publications, Ltd.

Kipnis, D., Schmidt, S. M., & Wilkinson, I. (1980). Intraorganizational influence tactics: Exploration in getting one's way. *Journal of Applied Psychology, 65,* 440-452.

Krackhardt, D. (1990). Assessing the political landscape: Structure, cognition, and power in organizations. *Administrative Science Quarterly, 35,* 342-369.

Krackhardt, D., & Porter, L. W. (1986). The snowball effect: Turnover embedded in communication networks. *Journal of Applied Psychology, 71,* 50-55.

Lamude, K. G., & Scudder, J. (1995). Relationship of managerial work roles to tactics used to influence subordinates. *The Journal of Business Communication, 32,* 163-173.

Lee, D. R., & Sweeney, P. J. (2001). An assessment of influence tactics used by project managers. *Engineering Management Journal, 13,* 16-24.

Lord, R. G., & Emrich, C. G. (2000). Thinking outside the box by looking inside the box: Extending the cognitive revolution in leadership research. *The Leadership Quarterly, 11,* 551-579.

McKelvie, S. J. (1989). The Wonderlic Personnel Test: Reliability and validity in an academic setting. *Psychological Reports, 65,* 161-162.

Mehra, A., Dixon, A. L., Brass, D. J., & Robertson, B. (2006). The social network ties of group leaders: Implications for group performance and leader reputation. *Organization Science, 17,* 64-79.

Mehra, A., Kilduff, M., & Brass, D. J. (2001). The social networks of high and low self-monitors: Implications for workplace performance. *Administrative Science Quarterly, 46,* 121-146.

Morrison, E. W. (2002). Newcomer's relationships: Role of social network ties during socialization. *Academy of Management Journal, 45,* 1149-1160.

Mumford, M. D., Friedrich, T. L., Caughron, J. J., & Byrne, C. L. (2007). Leader cognition in real-world settings: How do leaders think about crises? *The Leadership Quarterly, 18,* 515-543.

Neubert, M. J., & Taggar, S. (2004). Pathways to informal leadership: The moderating role of gender on the relationship of individual differences and team member network centrality to informal leadership emergence. *The Leadership Quarterly, 15,* 175-194.

Osborn, R. N., Hunt, J. G., & Jauch, L. R. (2002). Toward a contextual theory of leadership. *The Leadership Quarterly, 13,* 797-837.

Perry-Smith, J. E., & Shalley, C. E. (2003). The social side of creativity: A static and dynamic social network perspective. *Academy of Management Review, 28,* 89-106.

Reyson, S. (2005). Construction of a new scale: The Reysen like ability scale. *Social Behavior and Personality, 33,* 201-208.

Riggio, R. E. (1986). Assessment of basic social skills. *Journal of Personality and Social Psychology, 51,* 649-660.

Riggio, R. E., & Carney, D. (2003). *Manual for the Social Skills Inventory.* Redwood City, CA: Mind Garden.

Saucier, G. (2002). Orthogonal markers for orthogonal factors: The case of the Big 5. *Journal of Research in Personality, 36,* 1-31.

Schriesheim, C. A., Castro, S. L., & Cogliser, C. C. (1999). Leader-member exchange (LMX) research: A comprehensive review of theory, measurement, and data-analytic practices. *The Leadership Quarterly, 10,* 63-113.

Schriesheim, C. A., & Hinkin, T. R. (1990). Influence tactics used by subordinates: A theoretical and empirical analysis and refinement of the Kipnis, Schmidt, and Wilkinson subscales. *Journal of Applied Psychology, 75,* 246-257.

Scott, G. M., Lonergan, D. C., & Mumford, M. D. (2005). Conceptual combination: Alternative knowledge structures, alternative heuristics. *Creativity Research Journal, 17,* 21-30.

Sparrowe, R. T., Liden, R. C., Wayne, S. J., & Kraimer, M. L. (2001). Social networks and the performance of individuals and groups. *Academy of Management Journal, 44,* 316-325.

Steensma, H. (2007). Why managers prefer some influence tactics to other tactics: A net utility explanation. *Journal of Occupational and Organizational Psychology, 80,* 355-362.

Thompson, G., & Vecchio, R. P. (2009). Situational leadership theory: A test of three versions. *The Leadership Quarterly, 20,* 837-848.

Uhl-Bien, M. (2006). Relational leadership theory: Exploring the social processes of leadership and organizing. *The Leadership Quarterly, 17,* 654-676.

Vecchio, R. P., & Sussmann, M. (1991). Choice of influence tactics: Individual and organizational determinants. *Journal of Organizational Behavior, 12,* 73-80.

Yukl, G. (2009). *Leadership in Organizations.* Upper Saddle River, NJ: Prentice Hall.

Yukl, G., Chavez, C., & Seifert, C. F. (2005). Assessing the construct validity and utility of two new influence tactics. *Journal of Organizational Behavior, 26,* 705-725.

Yukl, G., & Falbe, C. M. (1990). Influence tactics and objectives in upward, downward, and lateral influence attempts. *Journal of Applied Psychology, 75,* 132-140.

Yukl, G., Falbe, C. M., & Youn, J. Y. (1993). Patterns of influence behavior for managers. *Group & Organization Management, 18,* 5-28.

Yukl, G., Kim, H., & Falbe, C. M. (1996). Antecedents of influence outcomes. *Journal of Applied Psychology, 81,* 309-317.

Yukl, G., Lepsinger, R., & Lucia, A. (1991). Preliminary report on the development and validation of the influence behavior questionnaire. In K. Clark, M. B. Clark, & D. P. Campbell (Eds.), *Impact of Leadership.* Greensboro, NC: Center for Creative Leadership.

Yukl, G., Seifert, C. G., & Chavez, C. (2008). Validation of the extended Influence Behavior Questionnaire. *The Leadership Quarterly, 19,* 609-621.

Yukl, G., & Tracey, J. B. (1992). Consequences of influence tactics used with subordinates, peers and the boss. *Journal of Applied Psychology, 77,* 525-535.

Zaccaro, S. J., Gilbert, J. A., Thor, K. K., & Mumford, M. D. (1991). Leadership and social intelligence: Linking social perspectiveness and behavioral flexibility to leader effectiveness. *The Leadership Quarterly, 2,* 317-342.

Zaccaro, S. J., Rittman, A. L., Marks, M. A. (2001). Team leadership. *The Leadership Quarterly, 12,* 451-483.