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The Moderating Effect of Psychological Empowerment on the Relationship between Network Centrality and Individual Job Performance

David A. Washington

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**THE MODERATING EFFECT OF PSYCHOLOGICAL EMPOWERMENT ON
THE RELATIONSHIP BETWEEN NETWORK CENTRALITY AND
INDIVIDUAL JOB PERFORMANCE**

THESIS

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AFIT/GEM/ENV/12-M21

**DEPARTMENT OF THE AIR FORCE
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PERFORMANCE

THESIS

Presented to the Faculty

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In Partial Fulfillment of the Requirements for the

Degree of Master of Science in Engineering Management

David A. Washington

Captain, USAF

March 2012

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Abstract

The purpose of this research was to identify the effect of psychological empowerment (PE) on social network location and individual performance. This study sought to test three hypotheses, which were introduced through a comprehensive literature review, regarding the relationships between social network centrality and individual job performance. Research has indicated a positive relationship between network centrality and performance; however, other research suggests performance can be better predicted by including motivation in the model. Therefore a moderation model was developed and tested to identify the relationships between network centrality, PE, and three categories of individual job performance: task performance, organizational citizenship behavior (OCB), and counterproductive work behavior (CWB). The moderation results suggest that PE influences the relationship between social network centrality and both task performance and OCBs. PE appears to enhance the relationship between network centrality and performance such that individuals with high perceptions of PE perform better than individuals with lower perceptions of PE of similar centrality. The study also suggests that social network location affects an individual's task performance and engagement in OCBs when the individuals have low perceptions of PE. Conversely, the study suggests social network location does not affect task performance for individuals with high perceptions of PE.

To my wife, my eldest, and my youngest: without you, none of this would have been possible

Acknowledgments

I would first like to thank God for allowing us this opportunity. Secondly, I would like to thank my wife for always working with me to make it through even though we were both in school. I would also like to thank my daughter for all the times she has taken care of her brother to allow me time to study and work. Thanks to Lt Col Kent Halverson for his input on social networks and Dr. Edward White for answering the random statistics questions I had. Lastly, I would like to thank my advisors Lt Col John Elshaw, Lt Col Sharon Heilmann, and Dr. Al Thal. Your guidance, insight, and patience were invaluable in allowing me to reach outside of my knowledge base and discover new ways to approach future challenges in my life.

David A. Washington

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THE MODERATING EFFECT OF PSYCHOLOGICAL EMPOWERMENT ON THE RELATIONSHIP BETWEEN NETWORK CENTRALITY AND INDIVIDUAL JOB PERFORMANCE

I. Introduction

Social networks have received much attention from managers of organizations in recent years. They are the relationships between actors, whether they are individuals, work units, or organizations. Social network analysis examines the interactions between actors in given environments and has been used in a variety of social science domains such as psychology, sociology, anthropology, political science, and communications to include individual and group behavior (Renfro, 2001). Most of the important work in organizations is increasingly accomplished collaboratively through social networks, yet few organizations know how to understand, harness, and influence their potential because they do not control them (Cross & Prusak, 2002).

Where an individual is positioned within an organization's social network has been found to be an important indicator of organizational outcomes (Balkundi & Harrison, 2006; Ibarra, 1993). Various outcomes, such as job satisfaction, commitment (Roberts & O'Reilly, 1979; Kilduff & Krackhardt, 1993), power (Burkhardt & Brass, 1990; Sparrowe & Liden, 2005), leadership (Leavitt, 1951; Mehra, Dixon, Brass & Robertson, 2006), and creativity and innovation (Ibarra, 1993; Burt, 2004) have been linked to where an individual is positioned in the network. An outcome of importance to managers in organizations is individual job performance. Studies have shown evidence

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of increased performance as a result of an individual's position in a network (Sparrowe, Liden, Wayne, & Kraimer, 2001).

To date, studies measuring social network characteristics in relation to performance have considered only the basic relationship between an individual's position in a network and the individual's performance (e.g., Yang & Tang, 2004; Cummings & Cross, 2003; Sparrowe et. al., 2001, Baldwin, Bedell, & Johnson, 1997). This relationship is thought to exist because the network of interactions enhances or constrains access to valued resources (Brass, 1984; Ibarra, 1993). The resources exchanged through informal networks include work-related resources, such as task advice and strategic information. However, few researchers have examined whether there are any contextual situations that affect the relationship. This lack of research is unexpected since performance has long been viewed as a function of ability, motivation, and resources (Blumberg & Pringle, 1982; Vroom, 1964). Therefore, if network location represents the resources variable in the function, performance could be better predicted by including ability and motivation. Ability is the capability to perform. However, it is relatively fixed. Therefore, organizations could best influence an individual's performance by focusing on motivation.

Motivation is defined as the set of energetic forces that originate from both within (intrinsic motivation) and outside (extrinsic motivation) an individual that initiates work-related behavior and determines its direction, intensity, and duration (Latham & Pinder, 2005). Extrinsic motivation refers to motivation that comes from outside an individual, such as the prospect of receiving external rewards (i.e. pay, prizes, or grades). Intrinsic motivation refers to motivation that comes from the pleasure or satisfaction an individual

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gets from working on or completing a task, rather than the promise of external rewards. Psychological empowerment is a type of intrinsic motivation construct related to individual job performance. It refers to an individual's self-motivating mechanisms and reflects the individuals' intrinsic motivation (Spreitzer, 1995).

This study examines individual job performance as a consequence of network centrality. One purpose of this study is to replicate and extend previous research on the relationship between an individual's network position within the work group and his or her job performance by examining the role of informal network position in actual work settings. Another purpose of the study is to determine if psychological empowerment moderates the relationship between an individual's network centrality and job performance (Figure 1).
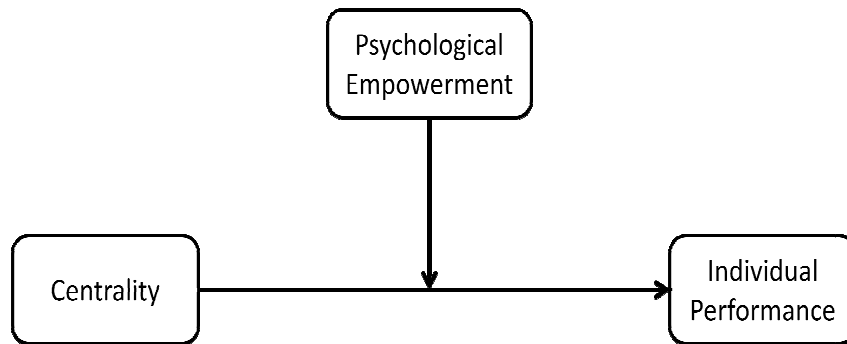
Figure 1. Proposed model of the relationship between Psychological Empowerment, Centrality, and Performance

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II. Literature Review

Chapter Overview

Much of early organizational research focused on the consequences (results) of social networks (Borgatti & Foster, 2003). This research examines consequences (i.e., individual performance) of social network location and possible moderators (i.e. psychological empowerment). The review begins by defining social networks, how they are constructed, and how they affect organizations. Studies are also reviewed that show the importance of the relationship between social network centrality and individual job performance. The discussion transitions to discussing expectancy theory and how it supports the proposed model in this research. Lastly, the review discusses why psychological empowerment is used as a measure of individual motivation, after which moderation models are introduced.

Introduction to Social Networks

Two major classifications of networks exist in social network literature: formal and informal (Scott, 2000). Formal networks can be thought of as relationships that are formally required to do one's job. They have defined rules, regulations, objectives and policies that explain who does what and where. The U.S. government, businesses, universities, and hospitals are all examples of this kind of network. Formal networks follow the chain of command or the organization's hierarchy, which is typically represented on an organizational chart. In a formal network, there are clear delineations of which department people work in, who their boss is, and what the job titles are.

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Informal networks are different from formal networks in that they are not officially recognized or required as part of the job. They represent the discretionary relationships that individuals engage in. Informal networks may exist between co-workers who share similar interests outside of work or engage in the same extracurricular activities. Informal networks can also exist completely apart from the workplace. While exchanges occurring in formal networks are work-related, exchanges in an informal network can also be personal or social (Ibarra, 1993). Researchers suggest managers focus on informal networks, rather than formal networks, because they have the greatest influence in the organization (Kleiner, 2002; Casciaro & Lobo, 2005).

Social Networks

Informal networks (hereafter, *social networks)* have been analyzed to determine their function and influence. The interest in social networks can be attributed to the popularization of social capital, which has emerged as a business competence, receiving wide attention in business journals and popular literature (Burt, 2005; Cohen & Prusak, 2001). Social capital refers to the ability of individuals to attain benefits by being connected to others in social networks or other social structures (Portes, 1998). This advantage is created by a person's location in the structure of network relationships.

Social capital exists in every organization, and like any other type of capital can be "depleted or enhanced, squandered or invested in" (Cohen & Prusak, 2001). It "explains how people do better, because they are somehow better connected with other people" (Burt, 2005). Some benefits of social capital to the organization include improved knowledge sharing, lower transaction costs due to a high level of trust and

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cooperative spirit between coworkers, lower turnover rates, and greater coherence of action due to organizational stability and shared understanding (Cohen & Prusak, 2001). Ultimately, access to new sources of knowledge is one of the most important direct benefits of social capital (Inkpen & Tsang, 2005). A basic precept of almost all social capital theories is that the network is one of the most powerful assets that any individual can possess (Cohen & Prusak, 2001).

Social network analysis has emerged as a tool for examining social capital. Social network analysis is used to study the relationships (called *ties*) between individuals, groups, or organizations (called *nodes*) (Figure 2) in an attempt to explain relational behaviors. In other words, social network analysis examines the influence individuals (or groups or organizations) have on one another. Social network analysis has been used to examine the ties between nodes in various environments at various levels in a variety of social science domains such as psychology, sociology, anthropology, political science, and communications (Renfro, 2001).
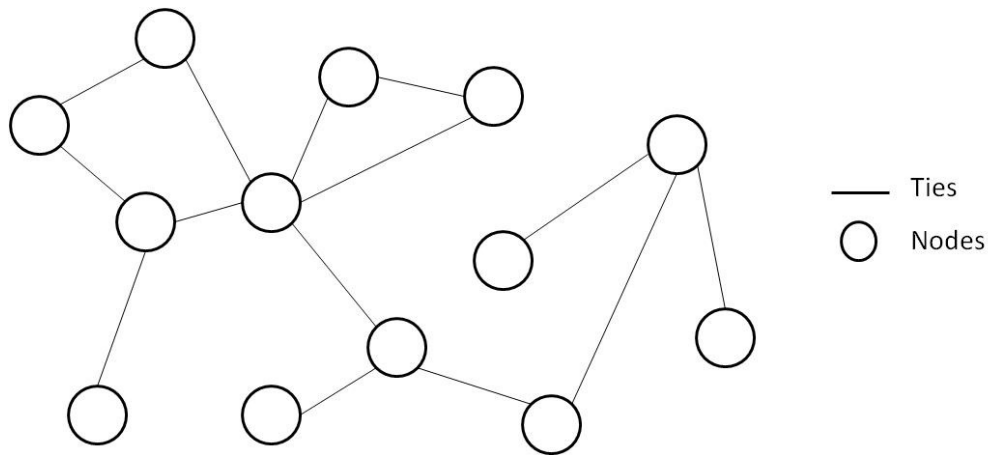
Figure 2. Social Network Structure

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Network Ties

The relationships between nodes studied in social networks are called ties. A tie exists when at least two nodes have established one or more relationships. The type of tie is important because it can affect how influential it may be. Ties can vary in direction (from person A to person B) and type (e.g., advice, friendship, or help).

A network tie can be classified as undirected (binary) or directed. A network with undirected ties is only concerned whether a relationship exists or not. For example, if person A declares he is friends with person B, the network assumes the relationship is reciprocated. With directed ties, however, it is important to distinguish whether the ties are unidirectional or bidirectional. Unidirectional ties are relationships that are not reciprocated. For example, person A may provide advice but not receive advice from person B, or person A may receive advice but not provide advice to person B (Borgatti, Everett, & Freeman, 2002). Bidirectional ties are relationships shared (reciprocated) between two individuals. For example, person A receives advice from and gives advice to person B. Whether or not a tie is shared is important because it often determines the nature of a relationship between individuals.

The types of ties are "limited only by a researcher's imagination" (Brass, Galaskiewicz, Greve, & Tsai, 2004). Ties typically studied in social network research are flows of communication (information), friendship (affect), and advice (influence) (Brass et al., 2004; Klein, Lim, Saltz, & Mayer, 2004). The communication network describes the relationships based on the exchange of work-related information (Brass, 1984). It highlights individuals who discuss work-related issues and can help identify gaps in information flow (Krackhardt & Hanson, 1993). The friendship network describes the

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ties of affection and camaraderie that link team members (Baldwin et al., 1997).

Although not very influential in task workflow, friendship networks have been used by

managers to obtain the resources needed to implement programs easier (Brass, 1984;

Kotter, 1982). The advice network is "comprised of relations through which individuals

share resources such as information, assistance, and guidance" (Sparrowe et al., 2001).

An advice network highlights the important individuals with whom others depend on to

solve problems and provide technical information (Krackhardt & Hanson, 1993).

Network Centrality

Centrality refers to where an individual is positioned relative to others in a social

network (Balkundi & Harrision, 2006; Burt, 1992; Wasserman & Faust, 1994).

Centrality is considered "one of the most important and widely used conceptual tools for

analyzing social networks. Nearly all empirical studies try to identify the most important

actors within the network" (Everett & Borgatti, 2005). Studies have indicated that

individuals central in a network have greater access to and control of resources (Ibarra,

1993), information (Brass & Krackhardt, 1999), and power and influence (Brass &

Burkhardt, 1992; Hanneman & Riddle, 2005). Because of this, centrality is one of the

most frequently studied and used concepts in social network analysis (Borgatti, 2005;

Borgatti, Carley, & Krackhardt, 2006). There are many types of centrality (Borgatti,

2005); however, the most frequently measured ones are betweenness centrality, closeness

centrality, eigenvector centrality, and degree centrality (Borgatti et al., 2006).

Betweenness centrality is calculated by counting the number of times an

individual is on the geodesic (the length of the shortest dyad between two people)

between other pairs of individuals in the network (Hanneman & Riddle, 2005). It

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measures the amount of flow that moves from each node to every other node that would pass through a given node (Borgatti, 1995). For example, in Figure 3, node A has a high betweenness centrality because all other nodes have to pass through A to communicate with another node. Thus, betweenness is better suited to show the level of control rather than level of access individuals have over the flow of resources in a network. Betweenness assumes flow is indivisible and travels only on the shortest path; therefore it is not suited for the movement of information (Borgatti, 2005).
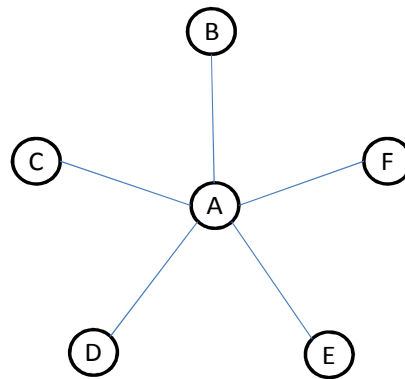
Figure 3. Graph of a Star Network

Closeness centrality measures the distance it takes, on average, for an individual to reach everyone else in the network. Closeness and distance refer to how quickly an individual can interact with others (Knoke & Yong, 2008). The *farness* of an individual is the sum of the distances to all other individuals, and its *closeness* is the inverse of the farness. Therefore, an individual is more central the lower his or her total distance is to all other individuals. For example, in Figure 3, node A has a farness of 5 from all other nodes, therefore has a closeness of 1/5. However, nodes B thru F have a farness of 9, therefore their closeness is 1/9. Individuals who have high closeness centrality measures can most efficiently make contact with others in the network (Freeman, 1979) and are

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"well-positioned to obtain novel information early, when it has the most value" (Borgatti, 2005).

Eigenvector centrality is a measure of the importance of an individual within a network. Simply put, an individual can be deemed important if they are adjacent to other individuals that are important. The idea is that if an individual influences another individual, who subsequently influences other individuals, the first individual is considered highly influential (Borgatti, 2005). The reverse works as well, such that the individual has an increased chance of risk (Borgatti, 2005). Eigenvector centrality assumes that each individual can affect all adjacent individuals simultaneously. Therefore, eigenvector centrality is best used to measure influence networks (Borgatti, 2005).

Degree centrality is a measure of the number of ties an individual has with others (Wasserman & Faust, 1994). For example in Figure 3, node A has a degree centrality of five while all other nodes have a degree centrality of one. The difference between individuals is based only on the number of connections (Hanneman & Riddle, 2005). Both eigenvector centrality and degree centrality can be used to measure influence. However, the difference between the two is that eigenvector centrality measures long-term direct and indirect influence while degree measures immediate influence only (Borgatti, 2005).

Social Network Consequences

Studies have found that social network relationships can influence many aspects in the organization. Rice and Aydin (1991) found that employees' attitudes about new

technology were similar to their supervisors and those with whom they communicated frequently. Yet another study showed how individual network location was a critical factor for good group performance (Yang & Tang, 2004). Centrality in a social network has also been found to be related to employee turnover (Mitchell, Holtom, Lee, Sablynski, & Erez, 2001; Shaw, Duffy, Johnson, & Lockhart, 2005), creativity and innovation (Ibarra, 1993; Burt, 2004), individual performance (Baldwin, Bedell, & Johnson, 1997; Sparrowe et al., 2001), and group performance (Tsai, 2001; Oh, Chung, & Labianca, 2004).

Social Networks and Job Performance

Before discussing social networks in the study of individual job performance, it is necessary to establish the fundamentals of job performance to facilitate the interpretation of future arguments and presentation of models. Job performance is defined as "those actions and behaviors that are under the control of the individual and contribute to the goals of the organization" (Rotundo & Sackett, 2002). Many behaviors can contribute to job performance; however, those behaviors typically fit into three categories: task performance, organizational citizenship behavior, and counterproductive work behavior (Borman & Motowidlo, 1993). The first two categories contribute positively to the organization while the last one contributes negatively to the organization.

Task performance refers to the actions that are formally recognized as part of an individual's job that directly contribute to the goods or services that the organization produces (Borman & Motowidlo, 1993; Rotundo & Sackett, 2002). In other words, task performance is the responsibilities an employee must perform in order to receive

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compensation and to maintain employment. For an elementary school teacher, task performance may include developing lesson plans, providing instruction to students, and evaluating academic and social growth. For a dentist, task performance may include performing preventative and maintenance care and educating a patient in proper tooth and gum care.

Organizational citizenship behavior (OCB) is the discretionary activities performed by an individual that are not directly rewarded but contribute by improving the overall performance of the organization (Organ, 1998). Put simply, OCBs are those actions individuals perform for the organization that are outside their formal responsibilities. Studies have suggested that OCB can be divided into two categories according to the intended primary beneficiary or target of the behavior (Williams & Anderson, 1991). The first are OCBs that benefit the organization (Williams & Anderson, 1991). These behaviors benefit the overall organization by an individual performing such actions as representing the organization in a marathon or promoting the organization when away from the premises. The second are OCBs that benefit specific individuals (Williams & Anderson, 1991). These behaviors indirectly benefit the organization by performing actions such as assisting co-workers complete their projects or introducing the new guy to the office.

Counterproductive work behaviors (CWB) refer to the actions an individual performs to intentionally harm the organization, to include theft, unsafe behavior, and misuse of information, time, or resources (Sackett & DeVore, 2001). CWBs are harmful to the organization by directly affecting its functioning or property, or by hurting employees in a way that will reduce their effectiveness.

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Studies examining the link between network centrality and individual job performance are virtually non-existent (Sparrowe et al, 2001; Volker & Flap, 2004) because "managers often refuse access to worker's evaluation reports and the direct measurement of performance" (Volker & Flap, 2004). To address this, some social network studies use proxies such as work satisfaction, commitment (Brass, 1981), absenteeism (Sanders & Hoekstra, 1998), rank, timing of promotion (Burt, 1992; Erickson, 2001; Podolny & Baron, 1997), income (Burt, 2000), influence (Ibarra, 1993), grades (Baldwin, Bedell, & Johnson, 1997), and profit (Lazega, 2001) to approximate performance. Others have studied the link indirectly. For example, Brass (1981) found that the centrality of employees' positions in a workflow network was indirectly related to job performance when mediated by job characteristics.

More recently, researchers began studying the relationship directly. Sparrowe, Liden, Wayne, and Kraimer (2001) used a measure developed by Williams and Anderson (1991) to measure task performance in their study and found that individuals who were central in their work group's advice network were rated higher in job performance than individuals who were not**.** Settoon and Mossholder (2002) found that centrality was positively related to supervisors' ratings of interpersonal citizenship behaviors. Bowler and Brass (2006) found that strength of network ties is positively related to the performance of interpersonal citizenship behavior. Lamertz and Aquino's (2004) study indicated that central individuals in the friendship network reduced the likelihood of perceiving CWBs (described as victimization which is defined as "the extent to which individuals perceived themselves to be the target of negative or aggressive behaviors by others"). However, it appears as though only three studies have

utilized interaction variables composed of individual attributes and network variables (Mehra et al., 2001; Burkhardt, 1994; Bowler, Halbesleben, Stodnick, Seevers, & Little, 2009).

Performance Formula

Studies have repeatedly shown evidence that central individuals have more social capital to draw upon to obtain resources and, therefore, are less dependent on any single individual (Cook & Emerson, 1978; Sparrow et al., 2001). As Burt (2005) states:

> Social capital has the potential to be a powerful technology applied to a critical issue. The technology is network analysis. The issue is performance. Social capital promises to yield new insights, and more rigorous and stable models, describing why certain people and organizations perform better than others.

However, increased access to resources alone does not determine whether an individual will have an increased level of job performance. For example, just because students have access to books in a library does not make them better students. The students have to have motivation to use the resources available to them in order to increase their grades.

Historically, there are two positions regarding influences on performance: it is either a function of selection, placement, and training or a function of motivation. Vroom (1964) proposes a function that took into account both positions:

$$performance = f(ability * motivation)$$

This formula has been widely adopted and generally accepted by researchers. However, its ability to "account for additional variance in performance...has been singularly unsuccessful" (Campbell & Pritchard, 1976). In an organization, individuals may be motivated and capable of successfully accomplishing tasks, but they may be prevented from doing so due to situational constraints beyond their control (Peters & O'Connor,

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1980). The formula does not account for environmental factors that are not under the control of the individual. To address this, Peters and O'Connor (1980) postulated that the missing aspect of performance is the "opportunity to perform." The opportunity to perform is "the particular configuration of the field of forces surrounding a person and his or her task that enables or constrains that person's task performance and that are beyond the person's direct control" (Blumberg & Pringle 1982). Peters and O'Connor (1980) considered opportunity to perform to be resources such as tools and equipment, materials and supplies, time, money, and information. The formula was thereby transformed to:

*performance = f(ability * motivation * opportunity/resources)*

Therefore, it appears that centrality represents the amount of resources an individual has access to. As such the revised formula shows an individual's level of job performance can be better predicted by including ability and motivation. Ability is the capability to perform and includes things such as education, experience, cognitive ability, environment, and training. However, ability is relatively fixed and can be difficult to accurately assess. Therefore, organizations might be able to best influence an individual's performance by focusing on motivation.

Motivation

Motivation is defined as the set of energetic forces that originate from both within (intrinsic motivation) and outside (extrinsic motivation) an individual that initiates work-related behavior and determines its direction, intensity, and duration (Latham & Pinder, 2005). Extrinsic motivation refers to motivation that comes from outside an individual, such as the prospect of receiving external rewards (i.e., pay, prizes, or grades). Intrinsic

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motivation refers to motivation that comes from the pleasure or satisfaction an individual gets from working on or completing a task, rather than the allure of external rewards. Researchers have developed a number of different theories and concepts to explain motivation. One is expectancy theory. Expectancy theory describes how individuals decide to act based on what they expect the result of the action will be. It argues individuals make choices that direct them towards pleasure and away from pain, or more specifically, towards certain outcomes and away from others (Vroom, 1964). Expectancy theory takes motivation from the performance formula and breaks it down into three components: expectancy, instrumentality, and valence. *Expectancy* is how confident individuals are that their effort will lead to a certain level of performance (Vroom, 1964). For example, John may not be motivated to diet if he believes he will not lose weight. *Instrumentality* is the belief that a successful performance will result in the attainment of certain outcomes (Vroom, 1964). If John believes he will be successful at dieting, he will expect to lose weight. Finally, *valences* are the expected values an individual assigns to those outcomes (Vroom, 1964). If John believed he was successful at dieting, he would be motivated to try it again in the future. However, if John did not lose weight, or even worse gained weight, he would be less motivated to try the diet again.

Psychological Empowerment

As mentioned previously, the performance formula is a function of ability, motivation, and resources. If ability is assumed constant and resources are represented by network centrality, a construct is required to characterize motivation. One motivational construct is psychological empowerment.

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Psychological empowerment is defined as increased intrinsic task motivation manifested in a set of four cognitions reflecting an individual's orientation to his or her work role: meaningfulness, competence, self-determination, and impact (Spreitzer, 1995). *Meaningfulnes*s is "the value of the task goal or purpose, judged in relation to the individual's own ideals or standards…the individual's intrinsic caring about a given task" (Thomas & Velthouse, 1990). Individuals who do not believe their tasks have a meaningful purpose have a tendency to be apathetic and feel detached while individuals that believe their tasks have a meaningful purpose are committed, involved, and focused (Thomas & Velthouse, 1990). *Competence* (or self-efficacy) is "the degree to which a person can perform task activities skillfully when he or she tries" (Thomas & Velthouse, 1990). It reflects the idea that the individual feels capable of successfully performing a particular task or activity. *Self-determination* is an individual's sense of control in initiating and changing actions. It reflects an individual's independence in the initiation and continuation of tasks (Spreitzer, 1995). *Impact* is an individual's perceived influence over important strategic, administrative, or operating outcomes (Liao, Toya, Lepak, & Hong, 2009). Ashforth (1989) characterizes impact as the degree to which an individual can influence the strategic, administrative, or operating outcomes at work.

However, Vroom (1964) defined motivation in the performance formula in terms of expectancy, instrumentality, and valence. Thomas & Velthouse (1990) developed the four cognitions of psychological empowerment based on an expectancy theory perspective where *meaningfulness* represents an anticipated outcome *valence*; *competence* represents *expectancy*; *impact* represents *instrumentality*; and *self-determination* represents the perceived opportunity for a decision based on the other

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dimensions. Therefore, psychological empowerment appears to be a good construct for motivation to use in the performance formula.

Conclusion

Based on previous discussion, there is a potential for moderation to affect the relationship between network centrality and job performance. The performance formula suggests that both social network position (resource) and psychological empowerment (motivation) are necessary for an individual to obtain increased job performance.   The first hypothesis below includes task performance as the dependent variable.

> *Hypothesis 1 – Psychological empowerment (PE) will moderate the relationship between advice network centrality and task performance such that higher PE will weaken the relationship, and lower PE will strengthen it.*

The second hypothesis includes organizational citizenship behavior as the dependent variable.

> *Hypothesis 2 – PE will moderate the relationship between advice network centrality and organizational citizenship behaviors such that higher PE will weaken the relationship, and lower PE will strengthen it.*

The last hypothesis includes counterproductive work behavior as the dependent variable.

> *Hypothesis 3 – PE will moderate the relationship between advice network centrality and counterproductive work behaviors such that higher PE will strengthen the relationship, and lower PE will weaken it.*

Figure 4, which summarizes the model used to test Hypotheses 1-3, proposes that the relationship between social network position and performance will differ based on an individual's level of psychological empowerment.

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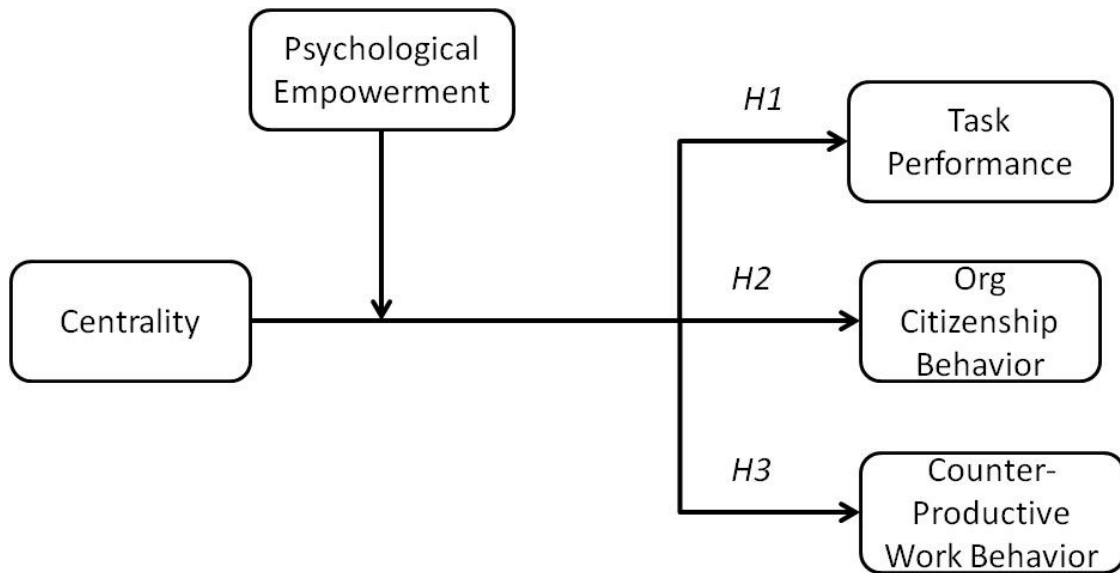
Figure 4. **Expanded moderation model of the relationship between Psychological Empowerment, Centrality, and Performance**

III. Methodology

Procedures

Data were collected using two different surveys. A summary of the research variables in the survey are presented in Appendix A. The two surveys were administered between January and December 2008 to three governmental organizations in the Midwest. The questionnaires were mailed to pre-identified points of contact in each organization, who in turn, distributed a questionnaire to each organizational member. A letter stating the purpose of the survey and providing contact information for the researcher was attached to each questionnaire. The completed questionnaires were mailed back using a self-addressed stamped envelope. Participation was strictly voluntary, and respondents' anonymity was maintained.

Sample

For the first survey, approximately 201 members from the three government organizations were invited to participate. Out of the 201 invited, there were 141 respondents, of which 109 of the surveys were useable, resulting in a 54% response rate. For the second survey, only the 141 respondents from the first survey were invited to participate. Out of the 141, 80 returned complete and useable surveys for a response rate of 57% for the second survey. The demographics were not available regarding the personnel who responded to the surveys.

Measures

       Five measures were used in this study to include: (a) network centrality, (b) task performance, (c) organizational citizenship behavior, (d) counterproductive work behavior, and (e) psychological empowerment. The items used in each measure are listed in Appendix A. Each measure used a 5-point Likert-scale ranging from "Strongly Disagree (1)" to "Strongly Agree (5)" unless otherwise specified. A composite score was obtained for each measure by summing and averaging their respective items, with high scores indicating high levels of the measure.

Network Centrality

       A survey measuring advice relationships was administered through a roster method. Each respondent received a list of names of people within his or her group and was asked to respond to a question to determine the strength of their relationship with each individual. The advice network was assessed using the following question: "How frequently do you go to this person for advice concerning organizational matters?" The interest was in the strength of the relationships among individuals who knew each other; therefore, participants were instructed to provide a response ranging from "Never (1)," "About once every few months (2)," "About once a month (3)," "Several times a week (4)," and "Several times a day (5)." The data provided by each participant concerning relationships with other members in the group were used to construct an advice network adjacency matrix. Closeness scores were calculated for each individual and normed within each network (Borgatti, Everett, & Freeman, 2002) to allow for comparisons across the three organizations.

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Performance

Three components of individual job performance were measured for this study: task (performance on required duties and responsibilities), organizational citizenship behavior (discretionary behaviors that promote the effectiveness of the organization but not recognized by formal reward systems), and counterproductive work behavior (discretionary behaviors that harm the effectiveness of an organization).

Supervisors rated each individual on a 6-item task performance scale and a 10-item organizational citizenship behavior (OCB) scale extracted from the individual performance scale developed by Williams and Anderson (1991). Cronbach alpha values for task performance and OCB were .96 (n = 70, Mean = 4.17, and SD = 0.81) and .82 (n = 70, Mean = 3.88, and SD = 0.55), respectively.

Participant's counterproductive work behavior (CWB) was completed by the individual and measured using an 18-item measure. Thirteen of the items measure CWB directed towards individuals (Bennett & Robinson, 2000). The items were scaled to indicate how often an individual engaged in certain behaviors, ranging from "Never (1)" to "Always (5)." The remaining five items measure CWB directed toward the organization (Ashforth & Mael, 1996) and were scaled from "Strongly Disagree (1)" to "Strongly Agree (5)." Cronbach alpha value for CWB in this study was .77 (n = 76, Mean = 1.73, and SD = 0.37).

Psychological Empowerment

Participants rated their level of psychological empowerment (PE) using Spreitzer's (1995) 12-item measure that represents the four dimension of PE: meaning, competence, autonomy, and impact. Each of the four dimensions was measured by three

items on a 5-point Likert scale. Cronbach alpha value for PE in this study was .84 (n = 102, Mean = 3.91, and SD = 0.54).

Control Variable

To minimize common method variance in this study (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), psychological empowerment measured was measured in the first survey and the network variables were measured in the second survey. In addition, since centrality is dependent on the intensity of social interaction among individuals in an organization, controls for disposition were put in place. Watson, Clark, & Tellegen's (1988) study suggests that an individual's emotional disposition is composed of two factors: positive affectivity (PA) and negative affectivity (NA) (Judge & Larsen, 2001). Positive affectivity refers to individual feelings of high energy, alertness, enthusiasm, and pleasurable engagement (Watson, Clark, & Tellegen, 1988). In contrast, negative affectivity refers to an individual's feelings of distress, unpleasurable engagement, anger, contempt, guilt, fear, and nervousness (Judge & Larson, 2001). Watson et al.'s (1988) study showed that PA was positively correlated to levels of social interaction; also suggesting that NA can negatively affect social interactions.

Participants' dispositions were assessed in the first survey using the Positive and Negative Affect Schedule (PANAS) developed by Watson et al. (1988). Participants were asked to read each item and indicate the extent to which they generally feel, or how they feel on average, from "Very Slightly or None at All (1)" to "Extremely (5)." Cronbach alpha values for PA and NA were .89 (n = 109, Mean = 3.61, and SD = 0.62) and .81 (n = 109, Mean = 1.69, and SD = 0.50), respectively.

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Analysis

Stepwise multiple regression analysis was used to test for moderation (Cohen, Cohen, West, & Aiken, 2003). In stepwise multiple regression, the independent variables are added to the regression equation one at a time according to their statistical contribution in explaining the variance in the dependent variable. Before generating interaction variables, psychological empowerment and centrality were centered (Cohen et al., 2003). Centering consists of subtracting the sample mean from each independent variable. The adjusted variables each have a mean of zero, but their sample distribution remains unchanged. Then the interaction terms are created by multiplying the centered psychological empowerment variable with the centered centrality variable. This method reduces the problem of multicollinearity associated with interaction terms (Cohen et al., 2003). The controls were entered in block 1, the main variables were added in block 2, and the interaction term was added in block 3. In order to demonstrate moderation, the change in R^2 was analyzed in Model 3, which added the interaction variable while controlling for the main effect variables. If a significant change in R^2 was found, then the significance of the interaction variable was assessed (Cohen, et al., 2003).

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IV. Analysis and Results

Factor Analysis

Prior to running a bivariate correlation analysis, psychological empowerment (PE), organizational citizenship behavior (OCB), and counterproductive work behavior (CWB) factor structure was examined with principal components analysis (PCA) using varimax rotation with Kaiser Normalization to determine whether the items loaded on the hypothesized factors suggested by Spreitzer (1995), Williams and Anderson (1991), and Bennett and Robinson (2000), respectively. Some of the indicators for OCB and CWB did not load on the expected factor; however, the measures were aggregated, so the individual factors were not as important.

The Kaiser-Meyer-Olkin measure for PE verified the sampling adequacy for the analysis, KMO equaled .75, which is above the acceptable limit of 0.5 (Kaiser, 1974). The KMO values for the individual items were greater than .61, which is also above the acceptable limit of 0.5. Bartlett's test of sphericity (χ^2 (66) = 849.03, p < .001) indicated that correlations between items were sufficiently large for PCA. The measure for PE used in the study was based on Spreitzer's (1995) 4-factor construct (meaningfulness, competence, self-determination, and impact). The four components in combination explained 81.93% of the variation. Table B1 in Appendix B shows the factor loadings for PE after rotation.

For OCB, the overall KMO equaled .81 and the KMO for the individual items were greater than .57, both above the acceptable limit of 0.5. Bartlett's test of sphericity (χ^2 (45) = 265.10, p < .001) indicated that correlations between items were sufficiently large for PCA. The OCB measure used in the study was based on Williams and

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Anderson's (1991) 2-factor construct (OCBs benefiting the organization or individual). The two components in combination explained 55.71% of the variation. Table B2 in Appendix B shows the factor loadings for OCB after rotation.

For CWB, the overall KMO equaled .75; however, one of the individual factors was less than .50 (CWB4) and had to be removed from the construct. The revised construct's overall KMO equaled .76 and the KMO for the individual items were greater than .53; both above the acceptable limit of .50. Bartlett's test of sphericity ($\chi2$ (136) = 551.85, p < .001) indicated that correlations between items were sufficiently large for PCA. The CWB measure used in the study was based on Bennett and Robinson's (2000) 2-factor construct (CWBs affecting the organization or individual) and Mael and Ashforth's (1996) single factor construct. The three components in combination explained 55.49% of the variation. Table B3 in Appendix B shows the factor loadings for CWB after rotation.

Intercorrelations

Table 1 includes descriptive statistics for each variable, including the mean, standard deviation, minimum, and maximum. The sample sizes of some variables differ from the models due to the pairwise deletion of cases caused by missing scores on other variables. Also included in Table 1 are bivariate correlations. The bivariate correlations indicated that an individual's network centrality was significantly related to task

Table 1. Descriptive Statistics and Correlations

	Variable	n	Mean	s.d.	Min	Max	1	2	3	4	5	6	7
1	Positive Affect	109	3.61	0.62	1.60	55.00							
2	Negative Affect	109	1.69	0.50	1.00	3.70	-0.16*						
3	Advice Centrality	110	34.54	28.00	1.15	100.00	-0.11	0.08					
4	Task Perf.	70	4.17	0.81	1.00	5.00	0.21	-0.14	0.21*				
5	OCB	70	3.88	0.55	2.10	4.80	0.41**	-0.15	0.01	0.65**			
6	CWB	80	1.74	0.37	1.17	2.56	-0.36**	0.26**	-0.13	-0.16	-0.40**		
7	PE	109	3.91	0.54	2.58	4.92	0.54**	-0.26**	0.00	0.43**	0.37**	-0.32**	

* Correlation is significant at the 0.05 level (1-tailed)
** Correlation is significant at the 0.01 level (1-tailed)
OCB = Organizational Citizenship Behavior
CWB = Counterproductive Work Behavior
PE = Psychological Empowerment

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performance (r = .21). This correlation, although slightly low, is consistent with the

study by Sparrowe et al. (2001) in which they found a correlation of r =.26. However,

the correlation between centrality and organizational citizenship behavior (r = .01) was

not consistent with Settoon and Mossholder's findings (r = .15 for task-focused OCB and

r =.22 for person-focused OCB). Also worth noting is that the correlation between advice

centrality and psychological empowerment (PE) was non-existent (r = .00). Since both

centrality and PE were used as predictors, the low correlation negated the possibility of

multicollinearity.

Regression Results

Hypothesis 1

Hypothesis 1 predicted PE would moderate the relationship between network

centrality and task performance such that increases in PE increase the centrality-

performance relationship. It was tested with the multiple regression model specified

previously. The coefficients resulting from this analysis are summarized in Table 2.

The first step was to determine model fit before the addition of the interaction.

The stepwise regression results showed a significant relationship between both PE and

centrality and performance. Task performance was regressed on centrality and PE.

These two predictors (along with the control variables) accounted for a quarter of the

variance in task performance (R^2 = .25), which was significant (p = .005). Both centrality

(β = .25, p=.051) and PE (β=.42, p = .008) demonstrated significant effects on task

performance.

Table 2. Multiple Regression Results for Task Performance[a]

	Model 1			Model 2			Model 3		
	Raw β	Std. β	p	Raw β	Std. β	p	Raw β	Std. β	p
Intercept	4.19 (.12)	-	-	4.20 (.12)	-	-	4.21 (.11)	-	-
Control Variable									
Pos tive Affect	.29 (.19)	.21	.134	.04 (.20)	.03	.865	.01 (.18)	.01	.943
Negative Affect	-.24 (.28)	-.12	.406	-.07 (.26)	-.03	.799	-.00 (.24)	-.00	.991
Independents									
Centrality				.01 (.00)	.25	.051	.01 (.00)**	.36	.004
PE				.72 (.26)**	.42	.008	.60 (.24)*	.35	.016
Interaction									
Centrality x PE							-.02 (.00)**	-.42	.001
Total R²	.063			.253			.405		
Δ R²	.063			.190**			.152***		

Note: [a] n = 52. Variables are centered
* p < 0.05, ** p < 0.01, ***p < 0.001
Raw refers to the raw beta coefficients.
Std. refers to the standardized coefficients.
Standard errors are in parenthesis.
PE = Psychological Empowerment

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The interaction term was then added to the model as previously described. Results showed a significant relationship between centrality, PE, the interaction term and performance. The addition of the interaction term increased the variance accounted for by 60% (R^2 = .41), which was significant (p = .001). Centrality (β = .36, p=.004), PE (β =.35, p = .016), and the interaction term (β = -.42, p =.001) demonstrated significant effects on task performance, thereby providing support for the presence of a moderator.

The relationship between centrality and individual job performance was plotted using ModGraph (Jose, 2003). The significant interaction between network centrality and PE was plotted by using the mean as the medium value, one standard deviation above the mean as the high mean, and one standard deviation below the mean as the low mean (following Aiken & West, 1991). All significant interactions, displayed in Figures 5 and 6, provide evidence that PE enhances the centrality/performance relationship. Figure 5 displays the resulting graph that shows at low and medium levels of PE, network centrality has a positive relationship with task performance, but at high levels of PE the relationship is slightly negative. Following Aiken and West (1991), the simple slopes of the lines were analyzed to assess their significance. The results showed that the slope of the lines representing the relationship between network centrality and task performance at low PE (β =.03, p = .000) and medium PE (β =.01, p = .004) were both significantly different from zero. However, high PE was not (β = -.00, p = .978). Also, the slope of the lines increases when transitioning from high to low levels of PE, thereby providing support for hypothesis 1.

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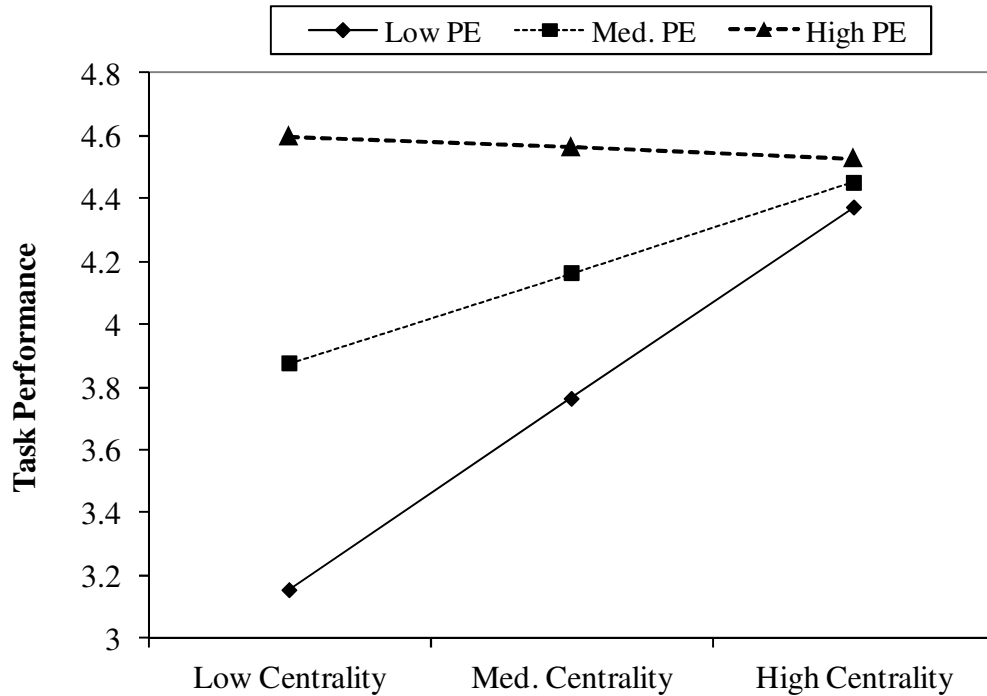
Figure 5. Interaction Effects of Network Centrality and Psychological Empowerment on Task Performance

Hypothesis 2

Hypothesis 2 predicted PE would moderate the relationship between network centrality and OCB such that increases in PE increase the centrality-OCB relationship. The hypothesis was tested with the multiple regression model specified previously. The coefficients resulting from this analysis are summarized in Table 3.

OCB was first regressed on centrality and PE. The stepwise regression results did not show a significant relationship between both PE and centrality and OCB ($\Delta R^2 = .026$, $p = .468$). The interaction term was then added to the model as previously described. The addition of the interaction term increased the variance accounted for ($R^2 = .44$), which was significant ($p = .000$). Centrality and PE were not significant; however, the

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Table 3. Multiple Regression Results for Organizational Citizenship Behavior[a]

	Model 1			Model 2			Model 3		
	Raw β	Std. β	p	Raw β	Std. β	p	Raw β	Std. β	p
Intercept	3.91 (.07)	-	-	3.90 (.07)	-	-	3.90 (.07)	-	-
Control Variables									
Positive Affect	.36 (.11)**	.41	.002	.28 (.13)*	.32	.045	.26 (.12)*	.30	.028
Negative Affect	-.13 (.17)	-.10	.447	-.08 (.17)	-.06	.653	-.03 (.15)	-.02	.851
Independents									
Centrality				-.00 (.00)	-.06	.669	.00 (.00)	.08	.520
PE				.20 (.17)	.18	.246	.10 (.15)	.09	.489
Interaction									
Centrality x PE							-.02 (.00)***	-.51	.000
Total R²	.189**			.215			.439***		
ΔR² Block	.189**			.026			.225***		

Note: [a] n = 52. Variables are centered
* p < 0.05, ** p < 0.01, ***p < 0.001
Raw refers to the raw beta coefficients.
Std. refers to the standardized coefficient.
Standard errors are in parenthesis.
PE = Psychological Empowerment

interaction term (β = -.51, p =.000) demonstrated significant effects on OCB, thereby providing support for the presence of a moderator.

Figure 6 displays the resulting graph that shows that at low and medium levels of PE, network centrality has a positive relationship with OCB, but at high levels of PE the relationship is negative. Again, following Aiken and West (1991), the simple slopes of the lines were analyzed to assess their significance. The results showed that the slope of the lines representing the relationship between network centrality and OCB at low PE (β =.01, p = .005) and high PE (β = -.01, p = .013) were both significantly different from zero. However, medium PE was not (β = -.00, p = .464). Additionally, the slope of the lines change from positive to negative when transitioning from low to medium levels of PE; therefore providing partial support for hypothesis 2.
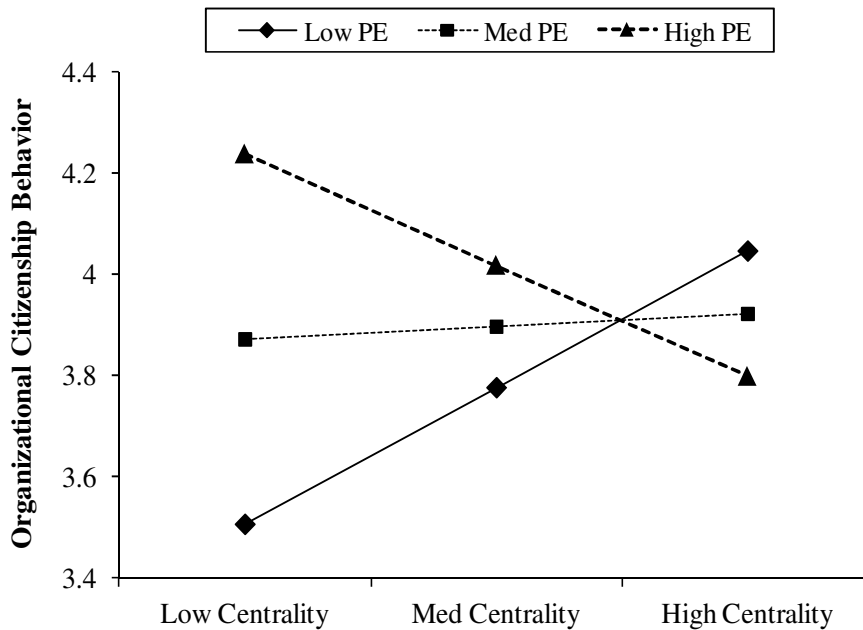
Figure 6. Interaction Effects of Network Centrality and Psychological Empowerment on Organizational Citizenship Behavior

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Hypothesis 3

Hypothesis 3 predicted PE would moderate the relationship between network centrality and counterproductive work behavior (CWB) such that increases in PE increase the centrality-CWB relationship. The hypothesis was tested with the multiple regression model specified previously. The coefficients resulting from this analysis are summarized in Table 4. CWB was first regressed on centrality and PE. The results did not show a significant relationship between both PE and centrality and CWB. The interaction term was then added to the model as previously described. The interaction was not significant (β = .18, p=.159); therefore, hypothesis 3 is not supported.

Table 4. Multiple Regression Results for Counterproductive Work Behavior[a]

	Model 1			Model 2			Model 3		
	Raw β	Std. β	p	Raw β	Std. β	p	Raw β	Std. β	p
Intercept	1.78 (.05)	-	-	1.79 (.05)	-	-	1.78 (.05)	-	-
Control Variables									
Positive Affect	-.27 (.08)**	-.4	.002	-.23 (.09)*	-.35	.019	-.22 (.09)*	-.34	.022
Negative Affect	.11 (.09)	.14	.257	.10 (.09)	.13	.297	.12 (.09)	.16	.211
Independents									
Centrality				-.00 (.00)	-.19	.122	-.00 (.00)	-.23	.066
PE				-.12 (.10)	-.16	.270	-.14 (.10)	-.20	.188
Interaction									
Centrality x PE							.00 (.00)	.18	.159
Total R²	.222			.285			.313		
ΔR² Block	.222**			.063			.028		

Note: [a] n = 56. Variables are centered
* p < 0.05, ** p < 0.01, ***p < 0.001
Raw refers to the raw beta coefficients.
Std. refers to the standardized coefficient.
Standard errors are in parenthesis.
PE = Psychological Empowerment

Overview

The purpose of this research was to explore the effect of an individual's psychological empowerment on network location and individual performance. Specifically, this study introduced a moderation model to determine the synergy between the two variables, and two of the three hypotheses were supported. Moderation means that the effect of centrality on performance is partially dependent on psychological empowerment. Results indicate that psychological empowerment moderates the relationship between centrality in an advice network and task performance (Hypothesis 1) and centrality in an advice network and organizational citizenship behavior (Hypothesis 2). However, results show little support that psychological empowerment moderates the relationship between centrality in an advice network and counterproductive work behaviors (Hypothesis 3).

There are a number of findings in this research. First, as shown in Figure 5, the strong effect of PE on task performance caused the "High PE" line to be above the "Low PE" line. Individuals with high levels of PE tend to have increased autonomy in their job roles and are more likely to have higher task performance. Tests found the slope of the "High PE" line to be non-significant, thereby providing evidence that highly empowered individuals are more likely to have high task performance regardless of their network position. Both of these results coincide with the empowerment theory that states empowered individuals perform better than those relatively less empowered (Thomas & Velthouse, 1990). Thomas and Velthouse (1990) particularly opined that when

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individuals feel empowered, proactive behaviors such as flexibility, resilience, and persistence ensue. Thus, individuals who feel their jobs are meaningful and have an impact on others within and outside of the organization are motivated to perform well (Liden, Wayne, & Sparrowe, 2000).

Secondly, the data analysis suggests that psychological empowerment has a more significant effect on individuals with low centrality than those with high centrality. As shown in Figures 5 and 6, there is a more pronounced difference in level between the three lines for individuals with low centrality than for individuals with medium or high centrality. The graphs also show there is little difference between the levels of PE of those with high centrality. This could mean that central individuals obtain their motivation from other places or receive their empowerment from the nature of the position itself in the network. Central individuals may have information and resources provided to them due to their position in the network. This is in line with the study by Brass (1984) which found evidence that central individuals have more power and influence in an organization.

Lastly, and most interesting, Figure 6 shows the slope of the line for individuals with low levels PE is positive, while the slope of the line for individuals with high levels of PE is negative. This indicates that PE changes the direction of the relationship between centrality and OCB. The negative line for individuals with high PE could be caused by the rater holding individuals in more central positions to higher levels of expectations in performing OCBs. Another possibility is that central individuals, because of the nature of their position, have more requests made of them to perform OCBs. However, their position in the network may not provide them the time to perform OCBs.

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Therefore, those with more autonomy may shirk from performing OCBs than those who have lower perceptions of empowerment. As shown on Figure 6, central individuals with low levels of PE performed higher level of OCBs than those with high levels of PE. Raters of central individuals with low levels of PE may be requiring individuals to perform OCBs while raters of central individuals with high levels of PE may allow the individuals to perform them on their own.

Limitations

This study has several potential limitations. First, the study utilized an archival dataset. Secondly, some of the data (psychological empowerment, counterproductive work behavior, and positive and negative affect) was collected using self-report instruments. Consistency and social desirability are potential issues to using self-report instruments. When answering the questions on the survey, respondents may have the desire to answer the questions consistently throughout the survey and consistent with the expectations of the organization and society as a whole.

The biggest limitation in this study is the factors that limit the generalizability of the results. First, demographic data was not available with the data used for this study. Demographic information would provide a picture of the types of individuals who constituted the sample for the study. This information allows readers to make informed judgments regarding the extent to which the results may apply to their own settings. Secondly, the work environment for this study was a governmental organization consisting primarily of administrative personnel. Generalizing to other organizations with differently structured work environments should be done so carefully. An

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environment with clearly specified roles and well-defined work could limit the amount of help employees provide to one another, while another environment characterized by less routine work could cause more employees to need help while allowing the flexibility to help one another (Bowler et al., 2009).

Future Research

This study suggests PE contributes to explaining the relationship between an individual's network position and his or her job performance. This study presented a number of avenues for future research. First, this study should be replicated using other government and non-governmental organizations. This will help determine if the result of this study is generalizable or if it is limited to government organizations. Second, the negative effect of high levels of PE on the relationship between network centrality and CWB should be investigated. Lastly, more research should be done to study the combined effects of individual variables along with social network measures.

Theoretical and Managerial Implications

It is important for managers to understand that individuals who demonstrate low levels of PE are less likely to be productive and engage in OCBs depending on their location in the network. Conversely, individuals with high levels of PE can be expected to be more productive in their tasks and put forth additional effort to help fellow individuals and the organization regardless of their position in the organization's social network. Based on this finding, managers should map the social networks in their organizations if they seek to increase productivity and OCB engagement. Managers should identify the individuals located on the fringes of the network and empower them.

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The application of psychological empowerment should have a larger effect on individuals with low centrality rather than those more central in the network.

Managers should also carefully consider the expectations of individuals more central in the network to engaging in OCBs. A manager's expectation of an individual central in the network may be translated to other areas outside of task performance. For example, suppose two individuals, one central in the organization's network and the other on the fringes, are performing the same service at an organizational event. Even though the two are performing the same service, the manager may have a bias that the more central individual should be more involved by virtue of his or her place in the network.

Conclusion

In conclusion, this study set out to show that there is a moderating effect of psychological empowerment on the relationship between network position and job performance. Support was found for a relationship, moderated by psychological empowerment, between network position, and both task performance and OCB. Supervisors can use these findings to better understand the role that psychological empowerment represents for the individuals in the fringes of the organization's social network.

Appendix A. Survey Questions

The following questions pertain to your current job. Read each statement and using the scale below as a reference, circle the number ranging from 1 "Strongly Disagree" to 5 "Strongly Agree" which indicates how you feel.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

In the following questions, *group* refers to the group of coworkers you regularly interact with

PSYCHOLOGICAL EMPOWERMENT

The work I do is very important to me.	1	2	3	4	5
My job activities are personally meaningful to me.	1	2	3	4	5
The work I do is meaningful to me.	1	2	3	4	5
I am confident about my ability to do my job.	1	2	3	4	5
I am self-assured about my capabilities to perform my work activities.	1	2	3	4	5
I have mastered the skills necessary for my job.	1	2	3	4	5
I have significant autonomy in determining how I do my job.	1	2	3	4	5
I can decide on my own how to go about doing my work.	1	2	3	4	5
I have considerable opportunity for independence and freedom in how I do my job.	1	2	3	4	5
My impact on what happens in my department is large.	1	2	3	4	5
I have a great deal of control over what happens in my department.	1	2	3	4	5
I have significant influence over what happens in my department.	1	2	3	4	5

COUNTERPRODUCTIVE WORK BEHAVIOR

Took property from the branch without permission.	1	2	3	4	5
Intentionally worked slower than you could have in carrying out your responsibilities and activities at the branch.	1	2	3	4	5
Spoke poorly about the branch to others.	1	2	3	4	5
Littered the branch premises.	1	2	3	4	5
Ignored instructions from your branch authorities.	1	2	3	4	5
Discussed confidential branch information with outsiders.	1	2	3	4	5
Put little effort into your responsibilities / activities at the branch.	1	2	3	4	5
Refused to talk to a coworker for a period of time	1	2	3	4	5
Gossiped about coworkers or the manager	1	2	3	4	5
Got into an argument or fight at work	1	2	3	4	5
Talked badly about people behind their backs	1	2	3	4	5
Behaved in an unfriendly manner with someone at your branch	1	2	3	4	5
Said something rude or hurtful while at work	1	2	3	4	5
When someone criticizes my branch, it feels like a personal insult	1	2	3	4	5

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I am interested in what others think about my branch	1	2	3	4	5
When I talk about my branch, I usually say "we" rather than "they"	1	2	3	4	5
The branch's successes are my successes	1	2	3	4	5
When someone praises my branch, it feels like a personal compliment.	1	2	3	4	5

The following questions pertain to the specific person identified. Read each statement and using the scale below as a reference, circle the number ranging from 1 "Strongly Disagree" to 5 "Strongly Agree" which indicates how you feel.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

ORGANIZATIONAL CITIZENSHIP BEHAVIOR

Take undeserved or extended work breaks	1	2	3	4	5
Give advance notice when he/she is unable to come to work	1	2	3	4	5
Spend time in personal phone conversations during office hours	1	2	3	4	5
Make suggestions to improve administrative practices and procedures in the branch	1	2	3	4	5
Complain about insignificant or minor things at work	1	2	3	4	5
Volunteer to do something that was not required.	1	2	3	4	5
Take a personal interest in the well-being of other employees	1	2	3	4	5
Help others who have heavy workloads	1	2	3	4	5
Go out of the way to help new employees	1	2	3	4	5
Take time to listen to coworkers' problems and worries	1	2	3	4	5

TASK PERFORMANCE

This employee fulfills all the responsibilities specified in his/her job description	1	2	3	4	5
This employee consistently meets the formal performance requirements of his/her job	1	2	3	4	5
This employee conscientiously performs tasks that are expected of him/her	1	2	3	4	5
This employee adequately completes all of his/her assigned duties	1	2	3	4	5
This employee sometimes fails to perform essential duties of his/her job	1	2	3	4	5
This employee sometimes neglects aspects of the job that he/she is obligated to perform	1	2	3	4	5

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POSITIVE AND NEGATIVE AFFECT

*Listed below are a number of words that describe different feelings and emotions. Read each item and indicate the extent to which **you generally feel this way**, that is, how you feel on the average. **Circle** the number that best describes your response.*

1	2	3	4	5
very slightly or none at all	A Little	Moderately	Quite a Bit	Extremely

To what extent do you generally feel:

Interested	1	2	3	4	5
Distressed	1	2	3	4	5
Excited	1	2	3	4	5
Upset	1	2	3	4	5
Strong	1	2	3	4	5
Guilty	1	2	3	4	5
Scared	1	2	3	4	5
Hostile	1	2	3	4	5
Enthusiastic	1	2	3	4	5
Proud	1	2	3	4	5
Irritable	1	2	3	4	5
Alert	1	2	3	4	5
Ashamed	1	2	3	4	5
Inspired	1	2	3	4	5
Nervous	1	2	3	4	5
Determined	1	2	3	4	5
Attentive	1	2	3	4	5
Jittery	1	2	3	4	5
Active	1	2	3	4	5
Afraid	1	2	3	4	5

Appendix B. Factor Analysis Tables

Table B1. Principal-Components Factor Analysis of Psychological Empowerment (PE) with Varimax Rotation (n =102)

	1	2	3	4
PE1	**.86**	.01	.22	.07
PE2	**.91**	.12	.14	.04
PE3	**.95**	.03	.09	.03
PE4	.13	.02	.10	**.90**
PE5	.05	.00	.09	**.92**
PE6	-.07	.29	-.20	**.75**
PE7	.07	**.90**	.20	.11
PE8	.05	**.85**	.26	.14
PE9	.05	**.82**	.31	.02
PE10	.10	.27	**.73**	.21
PE11	.20	.28	**.88**	-.12
PE12	.24	.28	**.87**	-.06
Eigenvalues	4.4	2.33	2.13	.98
% of variance	36.67	19.37	17.75	8.14
α	.91	.83	.88	.87

Note:
Factor loadings over .40 are in bold.

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Table B2. Principal-Components Factor Analysis of Organizational Citizenship Behavior (OCB) with Varimax Rotation (n =70)

	1	2
OCB1[a]	.26	**.63**
OCB2	.16	**.58**
OCB3[a]	.10	**.82**
OCB4	**.53**	.27
OCB5[a]	**.55**	.29
OCB6	**.78**	.19
OCB7	**.84**	-.09
OCB8	**.67**	.39
OCB9	**.84**	.17
OCB10	**.79**	.01
Eigenvalues	4.17	1.40
% of variance	41.68	14.03
α	.86	.57

Notes:
1. Factor loadings over .40 are in bold.
2. [a]Reverse scored

Table B3. Principal-Components Factor Analysis of Counterproductive Work Behavior (CWB) with Varimax Rotation (n =76)

	1	2	3
CWB1	.07	.07	**.58**
CWB2	.23	**.77**	-.11
CWB3	.27	**.71**	.27
CWB5	-.17	.23	**.54**
CWB6	-.04	-.01	**.52**
CWB7	.07	**.68**	.00
CWB8	-.02	**.48**	.30
CWB9	.04	**.74**	.30
CWB10	-.08	.17	**.71**
CWB11	.03	**.66**	**.51**
CWB12	.22	.13	**.82**
CWB13	.34	.28	**.56**
CWB14	**-.76**	-.05	.11
CWB15[a]	**.71**	.03	-.02
CWB16[a]	**.78**	.21	-.07
CWB17[a]	**.84**	.05	.16
CWB18[a]	**.84**	.16	.16
Eigenvalues	4.99	2.89	1.56
% of variance	29.33	16.98	9.18
α	.51[b]	.75	.76

Notes:

1. Factor loadings over .40 are in bold.

2. [a]Reverse scored

3. [b]Removal of CWB14 increases α to .85

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14. ABSTRACT

The purpose of this research was to identify the effect of psychological empowerment (PE) on social network location and individual performance. This study sought to test three hypotheses, which were introduced through a comprehensive literature review, regarding the relationships between social network centrality and individual job performance. Research has indicated a positive relationship between network centrality and performance; however, other research suggests performance can be better predicted by including motivation in the model. Therefore a moderation model was developed and tested to identify the relationships between network centrality, PE, and three categories of individual job performance: task performance, organizational citizenship behavior (OCB), and counterproductive work behavior (CWB). The moderation results suggest that PE influences the relationship between social network centrality and both task performance and OCBs. PE appears to enhance the relationship between network centrality and performance such that individuals with high perceptions of PE perform better than individuals with lower perceptions of PE of similar centrality. The study also suggests that social network location affects an individual's task performance and engagement in OCBs when the individuals have low perceptions of PE. Conversely, the study suggests social network location does not affect task performance for individuals with high perceptions of PE.

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