PsyCap, Task Behavior, OCB, and Centrality in Peer Networks

Employee psychological capital, a positive psychological state-like construct characterized by self-efficacy, hope, optimism and resilience, has been linked to desirable employee attitudes and behaviors (Luthans, et al. 2010), higher job performance (Luthans et al., 2007), and psychological well-being (Avey et al., 2010). However, studies have not yet looked at psychological capital's (PsyCap) impact on peer relationships. In this study, we investigate psychological capital’s impact on an individual’s position within two different types of social networks. Based on signaling theory, we proposed that certain behaviors send signals about one’s level of psychological capital. Given that earlier research shows a relationship between psychological capital and citizenship behavior (OCB), we hypothesized that OCB sends signals about psychological capital and therefore would mediate the relationship between psychological capital and network centrality. Our findings show that psychological capital has a positive relationship with network centrality in the social support network but no relationship with network centrality in the advice network. We also found that OCB mediated the relationship between psychological capital and network centrality in the social support and advice networks. Implications and future research directions are discussed.

“I have always thought the actions of [individuals] the best interpreters of their thoughts.”
— John Locke

In today's global market, leveraging competitive advantages is a way for firms to gain and sustain financial success. A competitive advantage can be defined as a resource that is “rare and unique, cumulative, interconnected, and renewable” (Luthans & Youssef, 2004: 144). An established competitive advantage is difficult to replicate by competitors because it is “beyond financial or strategic means, or because [it is] specific to or tightly intertwined with the organization's history, culture, structure, and processes” (144). The positive psychological state of development—or psychological capital—of employees has been proposed as a source of competitive advantage for organizations because of its impact on job performance and its uniqueness to individual firms (Luthans & Youssef, 2004).

Psychological capital is composed of the state-like psychological variables of self-efficacy, optimism, hope, and resilience, and promotes the development of employees’ actual self into their possible self (Luthans & Youssef, 2007: 335). Luthans and colleagues characterized psychological capital as a type of investment capital for organizations—but distinct from other types of capital (i.e. financial capital, human capital and social capital). Like other types of capital, psychological capital can be measured and its return on investment and its impact on competitive advantage can be determined (Luthans & Youssef, 2004: 153).
Even though psychological capital (PsyCap) is a relatively new construct (Luthans & Youssef, 2004), its value as a source of competitive advantage for organizations has attracted research attention (Avey, Reichard, Luthans, & Mhatre, 2011). Studies have shown that PsyCap has positive relationships with job performance and with desirable employee attitudes and behaviors.

Thus, while the PsyCap construct was developed under the framing of positive psychology—and with the intent of drawing attention to the value of employee positivity—studies measuring PsyCap’s impact have not looked beyond the scope of individual-level outcomes. One of the foundational theories in organizational behavior, social exchange theory, explains relationships as interactions that imply obligations (Emerson, 1976) and are subject to a cost-benefit analysis (Cropanzano & Mitchell, 2005). From a social exchange framing, we argue that the psychological resources and job performance benefits generated by PsyCap can be seen as a valuable asset in individuals and may make such individuals more desirable as social exchange partners. To our knowledge, studies have not looked at PsyCap’s impact and value for peer relationships at work.

From a relational perspective, we identify three limitations of current research in the area of PsyCap: (1) studies have looked almost exclusively at individual-level outcomes; (2) while PsyCap studies have measured evaluation of job performance, studies have not measured peer assessments of coworker job performance; and (3) while a number of studies have tested PsyCap’s impact on OCB, none have looked at the specific OCB dimensions of helping and voice. Each of these limitations is discussed in more detail below.

The first limitation we identify in current PsyCap research is a focus on individual-level outcomes. This seems to ignore the likely possibility that PsyCap is also partly responsible for more complex and synergistic interactions amongst organizational members, such as relationships. As such, it seems likely that PsyCap would influence one’s position in a social network. Organizations are understood as constructed and maintained through social interactions and relationships, and are social structures in which individuals and groups are embedded (Katz & Kahn, 1966; 1974; Weick, 1979). Social network analysis has been used to understand job performance (Sparrowe, Liden, Wayne & Kraimer, 2001), turnover (Kilduff & Krackhardt, 1994; Krackhardt & Porter, 1985; 1986), and many other types of outcomes (Brass, Butterfield, & Skaggs, 1998; Burt, 1992, 2004; Obstfeld, 2005). In addition to providing a competitive advantage to organizations, PsyCap also provides a competitive advantage to individuals through the management and development of self-efficacy, optimism, hope, and resilience. Thus, it seems likely that peers would recognize this competitive advantage and consider it in assessing potential relationship partners.

Pertaining to the second limitation, existing PsyCap research has been limited to using self-report ratings or supervisory ratings of job performance. However, coworkers may be in a better position to provide ratings of job performance because they often have more contact with the target than managers (Kraut, 1975; Seers, 1989). As such, it is likely that peers may take job performance into account in determining their workplace interactions (Cole, Schaninger, & Harris, 2002; Van Dyne, 2007).
The third limitation we identify is that studies measuring PsyCap’s relationship with OCB have been restricted to OCB-I (OCB directed toward individuals) and OCB-O (OCB directed toward the organization) (e.g. Avey, Luthans, & Youssef, 2010; Gooty et al., 2009). As such, past research has examined OCB based on the target or beneficiary (i.e. individuals or organizations) rather than on more specific types of citizenship behaviors. Different types of extra-role OCB, like voice and helping, can vary greatly in terms of their relationships, such that they have been found to have opposite relationships to outcomes (e.g. proactive personality has a relationship to innovation but not to voice-- Seibert, Kraimer & Crant, 2001). Therefore, it is unclear whether the relationships found between PsyCap and previously studied OCB dimensions also hold for the OCB dimensions of helping and voice.

Relying on social exchange theory (Blau, 1964), we argue that peers will value individuals with higher levels of PsyCap, such that they will be viewed as more valuable exchange partners. Based on this valuation, peers will be more likely to establish exchange relationships with high PsyCap peers, which will translate into more central social network positions for high PsyCap individuals. We test PsyCap’s impact on centrality in two types of social networks (social support and advice networks), as centrality in social networks has been linked to numerous individual and organizational benefits, such as performance (Baldwin, Bedell & Johnson, 1997; Mehra, Kilduff & Brass, 2001; Sparrowe et al., 2001), creativity (Burt, 2003; Perry-Smith, 2006), and entrepreneurship (Baron & Markman, 2003; Renzulli, Aldrich & Moody, 2000; Shane & Stuart, 2002). We also argue that high PsyCap individuals—who are more confident, optimistic, hopeful and resilient than others—will receive higher performance evaluations from peers. We investigate this in terms of peer-rated task behavior. Finally, after testing the relationship between PsyCap and the OCB dimensions of helping and voice, we rely on signaling theory to propose that certain positive behaviors (i.e. helping and voice OCB) send signals to peers about one’s level of PsyCap. Through this model, we suggest that peers use these signals to determine the value of exchange relationships with others. Thus, OCB may explain PsyCap’s impact on network centrality in the social support and advice networks.

THEORETICAL BACKGROUND AND HYPOTHESES

Psychological Capital

Psychological capital (PsyCap) is defined as “an individual’s positive psychological state of development that is characterized by: (1) having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive attribution (optimism) about succeeding now and in the future; (3) persevering toward goals and, when necessary, redirecting paths to goals (hope) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resilience) to attain success” (Luthans, Youssef, & Avolio, 2007: 3). PsyCap’s impact lies in its positive state-like components (e.g. self-efficacy, optimism, hope and resilience). States are the direct
precursors to behavior (George, 1991; 1996). Unlike personality traits, defined by long-term stability and applicability across contexts, positive state-like capacities are malleable and developed through experiences (Luthans & Youssef, 2007). Employees with higher levels of PsyCap believe they have control over their own success (efficacy and hope), expect good things to happen to them (optimism), and rebound more easily following failure (resilience), when compared with individuals with lower levels of PsyCap (Avey et al., 2011). In other words, PsyCap represents an individual’s positive evaluation of circumstances and the likelihood for success based on his or her mindset, drive and persistence (Luthans, Avolio, Avey & Norman, 2007). According to Luthans & Youssef (2004), developing higher levels of PsyCap helps people lead more productive and worthwhile lives, thus helping them realize their human potential.

**PsyCap as a Source of Competitive Advantage**

PsyCap has been proposed as a source of competitive advantage for organizations because having employees with higher PsyCap—or more employee PsyCap—provides organizations with a non-replicable capital that leads to better organization results in comparison to competitors (Luthans & Youssef, 2004). There are several reasons why employee PsyCap is a source of competitive advantage. The primary and most direct one is that PsyCap has an impact on employee job performance (Luthans, Avolio, Avey, & Norman, 2007; Luthans et al., 2008; Gooty, Gavin, Johnson, Frazier, & Snow, 2009; Avey et al., 2011; Avey, Luthans & Youssef, 2009; Luthans, Avey, Avolio, & Peterson, 2010). Job performance is comprised of task behavior and extra-role behaviors (i.e., organizational citizenship behavior, OCB) (Katz & Kant, 1966; Bateman & Organ, 1983; Organ, 1988). Task behavior is defined as “dependable role performance, meeting and preferably exceeding certain minimal qualitative and quantitative criteria” (Katz & Kant, 1966: 337). It is required or expected behavior and is the basis of job performance (Van Dyne & LePine, 1998: 108). OCB is defined as discretionary “contributions to the maintenance and enhancement of the social and psychological context that support task performance” (Organ, 1997: 91). It is “not specified in advance by role prescriptions, not recognized by formal reward systems, and not a source of punitive consequences when not performed” (Van Dyne & LePine, 1998: 108). Both task behavior and OCB are linked to better organizational outcomes (Podsakoff et al., 2009). Hence, a company with high employee PsyCap would have an aggregate performance advantage over other companies with lower employee PsyCap.

Another reason why PsyCap is a source of competitive advantage is through its impact on desirable employee attitudes, such as job satisfaction (Luthans, Avolio Avey, & Norman, 2007; Luthans, Norman, Avolio & Avey, 2008; Luthans, Avey, Avolio, & Peterson, 2010; Avey et al., 2011), commitment to the organization (Luthans et al., 2008; Avey et al. 2011), engagement (Avey et al. 2011) and employee psychological well-being (Avey, Luthans, Smith & Palmer, 2010). Positive job attitudes have been linked to numerous positive organizational outcomes (e.g. job satisfaction has been linked to lower employee turnover (Brayfield & Crockett,
organizational commitment has been linked to desire and intent to remain with the organization, attendance, lower employee turnover and some measures of job performance (Steers, 1977); engagement has been linked to job satisfaction, organizational commitment, a lower intent to quit, and OCB (Saks, 2006); and employee psychological well-being has been linked to job performance (Cropanzano & Wright, 1999; Wright, Bonett, & Sweeney, 1993; Wright & Cropanzano, 2000; Wright & Staw, 1999). Hence PsyCap can be a source of competitive advantage for organizations, both through a direct impact on employee job performance, and through employee attitudes that have been found to lead to positive organizational outcomes.

Embedded and somewhat overlooked in these relationships, is the idea that PsyCap can also be a source of competitive advantage for individual employees. This advantage can be seen in studies that have looked at PsyCap’s impact at the individual employee level. For example, as higher levels of PsyCap lead to higher levels of employee performance, they also lead to greater recognition and more positive assessment from supervisors (Avey et al., 2011; Luthans, et al, 2010). However, studies that look at employee performance have focused almost exclusively on outcomes that are generated in the formal structure of an organization (e.g. performance evaluated by a supervisor), all of which take place in a formal reward structure. However, an organization is composed of numerous social structures, both formally defined and informally developed. Researchers have found that these informal structures may be even more critical to some individual level career outcomes than the formal structures (Ibarra, 1993).

Social Networks and Centrality

Within the informal structure of an organization there are many social networks (Cole, Schaninger, & Harris, 2002). A social network is the set of connections among dyadic relationships within a social environment. The aggregation of all of the relationships in the environment determines each individual’s “position” within the overarching social network (Marsden, 1990). Within a network, members have different positions and more relationships lead to greater centrality within the network structure, which generally translates into better access to resources (Marsden, 1990) such as power (Brass, 1984; Brass & Burkhardt, 1993; Kilduff & Krackhardt, 1994), mobility (Boxman, De Graaf & Flap, 1991; Burt, 1997; Seibert, Kraimer & Liden, 2001; Seidel, Polzer & Stewart, 2000), employment (Fernandez, Castilla & Moore, 2000; Krackhardt & Porter, 1985, 1986), and leadership (Brass & Krackhardt, 1999; Pastor, Meindl & Mayo, 2002; Sparrowe & Liden, 1997). There are many different types of social networks and each is defined by the type of social relation it measures (Borgatti & Foster, 2003). For example, researchers have identified workplace networks such as communication, advice, influence, and friendship (or social support) types of networks (Klein, Lim, Saltz & Mayer, 2004).

Network Antecedents
Borgatti and Foster note that a fundamental difference in network studies is whether studies are about antecedents or consequences of network structures (2003: 1000). Most social network research has focused on the outcomes of a particular network structure or position (Borgatti & Foster, 2003). For example, outcomes such as various indicators of career success have been studied as a result of a network structure (Burt. 1992; Gabbay & Zuckerman, 1998; Podolny & Baron, 1997). Less work has been done on antecedents of network structures, but researchers have identified individual differences and personality types as antecedents to network centrality. For instance, Klein, Lim, Saltz and Mayer (2004) looked at the impact of demographic characteristics and the Big-Five personality traits on centrality in small team networks. They found that education and age were significantly related to centrality in the advice network. They also found that education, activity preference, neuroticism, openness to experience, and hedonism were significantly related to centrality in the friendship network. Mehra et al (2001) looked at the impact of high and low-self monitoring on network position. They found that high self-monitors were more likely to occupy central positions in social networks. Essentially, as Mehra et al. (2001) explained, the network antecedent perspective sees individuals as purposefully and proactively using their personality orientations to shift network structure (141), which can constrain and enable performance (121).

While different networks may be correlated, it is important to point out that they can function very differently from one another (Borgatti & Foster, 2003). For instance, agreeableness was found to significantly impact centrality in the friendship network (Klein et al., 2004), but not in the advice network, where other factors (e.g., competence) may be more important. In our study, we focus on two particular types of social networks: the social support network and the advice network. A social support network describes the ties of affection and camaraderie that link team members (Baldwin et al., 1997; Klein et al. 2004). An advice network describes the relations through which network members exchange information, assistance, and guidance (Sparrowe et al., 2001; Klein et al. 2004). The network in which an individual is situated is both a source of constraint (e.g. reputation, social norms, and repeated interactions), and an access path to opportunities (e.g. resources of others, information, and third-party relationships) (Marsden, 1990).

**Social Exchange Theory**

Social exchange theory is one of the most influential paradigms in organizational behavior research (Cropanzano & Mitchell, 2005). It conceptualizes social structures in a way similar to the portrayal of relationships in social network research (Cook & Whitmeyer, 1992). Social exchanges are described as interactions between individuals that imply obligations (Emerson, 1976), and are interdependent and contingent on the behavior of another individual (Blau, 1964; Cropanzano & Mitchell, 2005). Successful social exchanges can lead to establishing high-quality, longer-term social exchange relationships between individuals (Cropanzano & Mitchell, 2005; Cropanzano, Byrne, Bobocel, & Rupp, 2001).
While reciprocity is one of the primary rules of exchange (Emerson, 1976), other rules have been recognized as viable (Cropanzano & Mitchell, 2005). One of these is rationality, which is founded on the notion that social exchanges can be understood as individual decisions which are based on logic to assess the results and means of an exchange (Meeker, 1971). “Thus, a rational action has two parts—an end of value maximization and a means of logic” (Cropanzano & Mitchell, 2005: 879). For example, research on social support networks shows that individuals benefit from social support through received support, comfort and companionship (Fehr, 2004) Seeking social support, however, has some risks, such as being met with indifference and rejection, or, at the other extreme, receiving excessive demands for attention and intimacy (Klein et al, 2004: 954). Hence, following the rule of rationality, through social exchange relationships individuals look to maximize their received social support, while at the same time they seek to minimize the risk of indifference, rejection or undue demands. In sum, social exchange theory provides an explanatory framework from which to understand the impact of PsyCap on social networks.

Social Support Network

We hypothesize that in a social support peer network, peers will be more likely to look for, establish and engage in exchange relationships with high PsyCap individuals than with low PsyCap individuals because peers will see high PsyCap individuals as more confident, optimistic, hopeful, and resilient. Past research shows that peers look to connect more with optimistic and positive people. Optimists are likely to be perceived as more positive and as being in a better state of mind than pessimists (Brissette, Scheier, & Carver, 2002). Research shows that positive states widen attention (Fredrickson & Branigan, 2005; Rowe, Hirsch, & Anderson, 2007), broaden behavioral repertoires (Fredrickson & Branigan, 2005), and increase intuition (Bolte, Goschke, & Kuhl, 2003) and creativity (Isen, Daubman, & Nowicki, 1987). Thus, having PsyCap traits will likely result in a higher ability to manage work demands (Zellars & Perrewé, 2001). Further, individuals who are high on PsyCap are already ‘in a good place’ and are less likely to demand social support themselves, as they are more likely to respond positively to stimuli in general (Bower, 1981; Carson & Adams, 1980; Clark & Teasdale, 1985; Forgas, Bower, & Krantz, 1984; Isen, Shalker, Clark, & Karp, 1978; Teasdale & Fogarty, 1979). Research also shows that optimists have better networks. Optimism has been conceived as a measure of the quality and level of social support accessible to individuals (Brissette et al., 2002). Past research shows a positive relationship between optimism and the development of larger and more supportive social networks (Brissette, et al., 2002; Hays & Oxley, 1986). Therefore, it seems that PsyCap would make individuals more desirable as social exchange partners, as well as have higher quality relationships with those exchange partners. In sum, we propose that these qualities provide evidence to peers that engaging in exchange relationships with high-PsyCap individuals is more likely to maximize social support, and minimize risks of indifference, rejection or demands
**H1. PsyCap has a positive relationship with centrality in the social support network.**

**Advice Network**

Individuals look for advice to gain expert information and insights that they do not already have (Klein et al., 2004: 954). Generally, being in a higher organizational position sends a signal about expertise. In a network of peers, however, it may be more difficult to discern who is an expert – particularly since there is a range of topics across which individual expertise may differ. One issue with seeking advice is that it requires admitting ignorance or uncertainty, and potentially feeling embarrassed or being perceived as incompetent (2004: 954). Research shows that individuals are most likely to seek advice from capable individuals who would not make them feel uncomfortable or feel excessively indebted (Borgatti & Cross, 2003). Self-efficacy may play a role in whom others turn to for advice, as it is a mechanism of thought and action towards influencing others, and as a foundation for collective efficacy (Bandura, 1982; 1986). As such, others may seek advice from peers high on PsyCap because those peers are more willing and open towards being influential and are seen by others as more confident and positive. Hence peers may perceive high PsyCap individuals as less threatening, less likely to perceive the peer negatively for needing advice, and more willing to help peers. Hence, we propose PsyCap will positively impact centrality in the advice network.

**H2. PsyCap has a positive relationship with centrality in the advice network.**

**PsyCap and Job Performance: Task behavior and OCB**

Holistically, job performance has been defined as “dependably meeting or exceeding standards of performance prescribed by organizational roles, and innovatively and spontaneously going beyond prescribed roles” (Motowidlo & Van Scotter, 1994: 475). Task behavior is a set of recurring actions (Katz & Kahn, 1966) which can include fulfilling assigned duties, complying with company rules, and working the expected number of hours in a day (Williams & Anderson, 1991: 602). On the other hand, OCB includes a number of different types of behaviors (Organ, Podsakoff, & MacKenzie, 2006). For instance, helping others with work (e.g. orientating new employees, or assisting coworkers with workflow), voicing (e.g. speaking up with new or innovative ideas), compliance (e.g. attending non-required meetings), and sportsmanship (e.g. trying to make the best of difficult situations) (Podsakoff et al., 2005).

Research has confirmed a positive link between PsyCap and job performance (Luthans, Avolio, Avey, & Norman, 2007; Luthans et al., 2008; Avey et al., 2011). Specifically, PsyCap has been found to have a positive relationship with task behavior (Luthans, Avolio, Avey, & Norman, 2007; Luthans et al., 2008; Gooty, Gavin,
Johnson, Frazier, & Snow, 2009) and self- and supervisor-rated OCB (Avey et al., 2011; Avey, Luthans & Youssef, 2009; Luthans, Avey, Avolio, & Peterson, 2010). Hence PsyCap has been found to have an impact on overall job performance, as well as on its components of task behavior and OCB.

However, current studies on PsyCap’s impact on job performance have been limited, either by the measures of job performance used or by the measure of PsyCap used. For example, Youssef and Luthans (2007) conducted two studies relating PsyCap and task behavior. However, in the first study they used an organization-generated performance rating as a measure of job performance. Although a measure of task behavior was used in the second study, both of the studies used only three of the four PsyCap dimensions (i.e., hope, optimism and resilience). In another study, Gooty et al. (2009) used an in-role performance measure (Williams & Anderson, 1991), but used a modified version of the PsyCap scale, reducing the original 24 items to 21 items. Other studies, although measuring task behavior, did not include peer evaluations. For instance, Luthans, Avolio, Avey and Norman (2007) used managerial performance evaluations. Luthans, Avey, Avolio and Petersen (2010) used self and manager ratings, and Gooty et al. (2009) used performance evaluations from experts (i.e. graduate assistants). In sum, none of the prior studies have adequately assessed the relationship between PsyCap and job performance due to inconsistencies in measures across the studies. Our study extends current research by using both self and peer ratings of task behavior and OCB, as well as the complete PsyCap measure.

Luthans and colleagues (Luthans et al, 2010) have proposed that the relationship between PsyCap and job performance is founded on Fredrickson’s psychological resources theory (2001) and Mobley, Griffeth, Hand, and Meglino’s (1979) conceptual model of thoughts, intentions and behavior. Psychological resources theory proposes that positive affect “broaden[s] people’s momentary thought-action repertoires, which in turn serve[s] to build their enduring personal resources, ranging from physical and intellectual resources to social and psychological resources” (Fredrickson, 2001: 218). In support of the theory, research has identified links between positive affect and flexibility in thought patterns (Isen & Daubman, 1984), creativity (Isen, Daubman, & Nowicki, 1987), openness to information (Estrada, Isen, & Young, 1997), and efficiency (Isen & Means, 1983; Isen, Rosenzweig, & Young, 1991). Those experiencing positive affect also have a preference for more varied and broader repertoires of behavioral options (Kahn & Isen, 1993). In essence, positive affect broadens thinking (Fredrickson, 2001: 221). Mobley et al.’s model (1979) proposes that while behavioral intentions do not always translate into observable behaviors, they often will. Hence, with higher levels of PsyCap, employees will often have more psychological resources, be more flexible, creative, and open to new possibilities, and will be more likely to engage in behaviors that reflect those thoughts and resources (Avey et al., 2011).

We expect to find a positive relationship between PsyCap and both self- and peer-rated task behavior. We explain PsyCap’s impact on self-ratings through the interplay and development of the variables that make-up PsyCap. As stated above, employees with higher levels of PsyCap believe they have control over their own
success (efficacy and hope), expect good things to happen to them (optimism), and rebound more easily following failure (resilience). Necessary in the development of PsyCap is both an awareness and assessment of their capability, which are at least in part generated from their behaviors. As such, individuals with higher levels of PsyCap may be likely to be more attentive of their task behavior, in hopes of further improving it.

**H3a. PsyCap has a positive relationship with self-rated task behavior.**

As far as other-rated task behavior, we rely on Fredrickson’s psychological resources theory and Mobley et al.’s model (1977) about thoughts, intentions and behavior management, linking PsyCap with actual intentional, creative, and efficient behaviors that positively impact the quality of task behavior. Hence, PsyCap would impact recognizable task behavior, but further, we believe that the positivity and openness generated by higher levels of PsyCap would also make it more likely that peers would see and acknowledge an individual’s task behavior.

**H3b. PsyCap has a positive relationship with peer-rated task behavior.**

**Dimensions of OCB: Helping and Voice**

While helping and voice OCB fall within the theoretical foundations of the extra-role OCB construct (i.e. positive and discretionary), they are two distinct behavioral dimensions (Van Dyne & LePine, 1998). Van Dyne and LePine (1998) characterize helping as an affiliative and promotive behavior. They describe it as cooperative and noncontroversial behavior that builds and preserves relationships, while emphasizing relational harmony (1998: 109). Helping behaviors arise from positive emotional states, establish bonds, and promote consensus among organizational members (Podsakoff et al., 2005). Hence helping behaviors flow from positive states and help in establishing cooperative relationships.

Voice, on the other hand, is defined as a challenging promotive behavior, primarily expressing a constructive challenge, intended to enhance performance rather than simply criticize it (Van Dyne & LePine, 1998). An expression of voice can be an innovative suggestion for change or a recommendation towards modifications to standard procedures, even at the risk of disagreement (1998). As such, while there is always a risk in any behavior (i.e. the actual outcome of the behavior will not be the intended one), voice OCB is riskier than helping. Voice not only draws attention to the individual who proposes a new suggestion or points out a problem, but also because it may be seen as critical, not only calling into question group consensus, but also interpersonal relationships—especially by peers in a negative psychological state. If voice is not framed and understood as both promotive and challenging, it may be interpreted simply as challenging.

However, while researchers have looked at PsyCap’s relationship OCB-I and OCB-O, they have not looked at the PsyCap’s relationship with these individual dimensions. In our study we rely on the theoretical narrative put forth by Luthans
and colleagues linking PsyCap and OCBs based on positive affect to test the causal relationship between PsyCap and two different behavioral dimensions of OCB: helping behaviors (Podsakoff et al., 2005) and voice (Van Dyne & LePine, 1998).

Relationships between PsyCap and Helping and Voice

While the relationship between affect and observable behaviors is complex, (Dalal, 2005; Carlson, Charlin, & Miller, 1988; Carlson & Miller, 1987), there is a considerable body of research establishing a link between positive affect and helping behaviors (George, 1991; Isen, 1984; Penner, Midili, & Kegelmeyer, 1997; Salovey, Mayer, & Rosenhan, 1991; Spector & Fox, 2002). Several studies have looked at the relationship between PsyCap and OCB (Goody et al., 2009; Avey, Luthans & Youssef, 2010; Avey et al., 2011), and findings show that individuals higher in PsyCap are more likely to engage in OCBs than those lower in PsyCap (see Avey et al., 2011 for a meta-analysis). Researchers have explained this relationship, relying on the general belief that more positive employees seem to engage in more OCBs than those who tend to be negative (Avey et al, 2011: 441).

A possible explanation for this may be that employees in a positive state generate a more positive framing for responding to stimuli (Bower, 1981; Carson & Adams, 1980; Clark & Teasdale, 1985; Forgas, Bower, & Krantz, 1984; Isen, Shalker, Clark, & Karp, 1978; Teasdale & Fogarty, 1979), and are more interested in others (Bell, 1978; Gouaux, 1971; Mehrabian & Russell, 1975). Hence high PsyCap employees are more likely to interpret interactions with coworkers more positively, and identify opportunities to help them (George, 1991). Further, high PsyCap employees, because of broader thought-action repertoires, may be more creative in how they help others (Avey et al 2011: 441).

As such, we propose that PsyCap provides individuals with the psychological resources to engage in helping others, the perspective and attention to identify helping opportunities, the framing to believe that their help will be useful, and the appreciation and intent of developing relationships with others. Finally, as argued above, individuals with higher levels of PsyCap may be likely to be more attentive of their behavior based on their expectations of generating an outcome.

H4a. PsyCap has a positive relationship with self-rated OCB helping behaviors.

We also expect PsyCap to have a positive relationship with voice. Voice is primarily about providing suggestions for change (LePine, Erez, & Johnson, 2002), and employees are only likely to speak up when they perceive greater net benefits than potential costs (Detert & Burris, 2007). Hence risk is prevailing component in voice. One risk associated with voice is the potential damage to relationships with those who devised, are responsible, or feel personally attached to the status quo (Detert & Burris, 2007). Another risk associated with voice is that speaking up also implies an inability to fix problems or pursue opportunities by themselves (Detert & Burris, 2007). Findings show that employees are aware of these risks, as perceived
leader openness was found to be significantly related to voice (Detert & Burris, 2007). Hence, variables that impact an employee’s cost-benefit analysis may impact of voice.

We propose that PsyCap impacts an employee’s cost-benefit analysis by both reducing perceived costs and enhancing perceived benefits. First, high PsyCap employees may have the necessary optimism, hope, confidence and positivity to not only be willing to take the risk of voicing a challenge to the status quo, but also not feel that needing help is a cost. As well, as stated before, employees high in PsyCap have broader thought-action repertoires, and as such, may be able to not only identify innovative suggestions or potential modifications that may be promote a project or organization, but also see organizational benefits that low PsyCap employees may not. Hence a high PsyCap employee will feel that speaking up will have less personal costs, have the confidence to express their challenge, and expect that their ideas will lead to organizational benefits. And once again,—as argued above—individuals with higher levels of PsyCap may be likely to be more attentive of their behavior based on their expectations of generating a desired outcome.

**H4b. PsyCap has a positive relationship with self-rated OCB voice.**

**OCB Helping as a signal of PsyCap to peers**

Generally, people are appreciative of help given (Blau, 1964). Past research shows that individuals who engage in more helping behaviors receive higher performance evaluations, are more likely to be recommended for rewards, (Podsakoff, Whiting, Podsakoff, & Blume, 2009) and are liked more (Allen & Rush, 1998). Nonetheless, in the formal reward structure of organizations, task behavior is more rewarded than OCB (Bergeron, Shipp, Rosen, & Furst, 2013). Given that a decision to help a coworker reduces the time available to invest in task behavior, this personal time allocation impacts the organization’s decision to allocate organizational rewards (Bergeron et al., 2013), and can generate a personal cost to career outcomes. This cost is crucial in understanding why researchers explain helping behaviors as altruistic or prosocial.

Using signaling theory, Deutsch Salamon and Deutsch (2006) explain that while OCB is costly from an investment perspective of time and energy, from a social perspective, this altruistic nature signals to others an underlying competitive ability. This ability is implied through the imposed cost of the behavior that other, less efficient, capable, or resource laden individuals could not manage or afford (Bliege Bird & Smith, 2005). Hence, social status, from a signaling theory perspective, is generated not only through the seemingly unnecessary expenditure of resources, but also in the ability to continue to perform task behaviors at expected levels. To use a monetary example, in a business context, for charity to bring status, it should not bankrupt the company. In other words, the altruistic display should not impact other components of status. As such, altruistic behavior is a sign of abundant resources (e.g. psychological, physical, financial, etc.). These resources are observed and interpreted by others, and generate status to the signaler. The more altruistic and costly the displayed behavior is, the more status
that will be imparted on the individual. Status in turn enhances the value of a social exchange partner, leading to centrality in a social network. We propose that through signaling theory, self-rated helping behaviors will explain the relationship between PsyCap and centrality in both the social support and advice networks.

**H5a. OCB (helping) mediates the relationship between PsyCap and centrality in the social support network.**

**H5b. OCB (helping) mediates the relationship between PsyCap and centrality in the peer advice network.**

**OCB Voice as a Signal of PsyCap to Peers**

As stated before, while voice is different from helping because it is a challenging and prohibitive behavior (Van Dyne & LePine, 2008). However, engaging in voice behaviors also sends certain signals to peers. High PsyCap employees will engage in voice because they have more resources, as well as more ideas and solutions, and are more willing to take a vocal and active role in the future of the organization. Peers interpret voice as a signal of a wealth of capabilities, again enhancing the status of the exchange partner. Hence voice will be seen by peers as a sign of more creativity, greater confidence (efficacy and hope), positivity towards a better future (optimism), and even if it is rejected, or misunderstood, that they can bounce back (resilience). As such, we expect that voice will mediate PsyCap’s effects on centrality in both the social support and advice peer networks.

**H6a. OCB (voice) mediates the relationship between PsyCap and centrality in the social support network.**

**H6b. OCB (voice) mediates the relationship between PsyCap and the centrality in the advice network.**

**METHODS**

**Sample Participants and Procedure**

We collected survey data and social network information from 106 graduate students from a private midwestern university. The participants belonged to three separate class sections. One section was made up of part-time students, while the other two were full-time students. Participants were offered extra-credit if they participated in the study. Of the total 108 students enrolled in the course, two did not give consent to participate, and were not included in the analyses.

The majority of the participants were male (69.8%), with a mean age of 27.56 years (SD=4.09; range was 21-51). There were nine nationalities represented; the largest population was from the United States (67%). Of the 106 participants, 62
were in the full-time program, the remaining 44 participants were in the part-time section.

For all three sections, data was collected at three different time points. The first two data collection points were administered using Qualtrics, an online survey program. First, we collected demographic and personality information. Eight weeks later we collected behavioral information (i.e., ratings of helping and voice). Finally, three weeks after the behavioral data collection, we collected social network information. Each of the measures is described in detail below.

Measures

Psychological capital (PsyCap).

We used the 24-item PsyCap measure [Psychological Capital Questionnaire (PCQ), Luthans, Youssef, & Avolio, 2007], comprised of the four PsyCap dimensions: 6 items measuring self-efficacy (Parker, 1998); 6 items for hope (Snyder, Symson, Ybasco, Borders, Babyak, & Higgins, 1996); 6 items for resilience (Wagnild & Young, 1993); and 6 items for optimism (Scheier & Carver, 1985). The PCQ has demonstrated acceptable reliability and construct validity (Luthans, et al., 2007). The full list of items is in the Appendix.

The responses to each question followed a six-point Likert-type scale with categories ranging from “1=strongly disagree; 6=strongly agree.” As our participants were students and were asked about working in a school setting (e.g., with team members), the context of the questions was altered to make them context specific to this setting. For example, the original questions asked about feeling confident at work, or working with colleagues. We asked about feeling confident at school, or working with other student team members. A sample question for each dimension was: “I feel confident in representing my team’s work to non-team members (e.g., other students, professors)” (self-efficacy); “At the present time, I am energetically pursuing my school goals” (hope); “I usually manage difficulties one way or another with school” (resiliency); “I’m optimistic about what will happen to me in the future as it pertains to school” (optimism).

To generate a composite PsyCap score, all 24-items were added together and averaged. In our sample, the PCQ measure of overall PsyCap had a reliability of .89, which was consistent with reliability estimates for the 24-item PCQ in the Luthans et al. study (2007), which ranged from .88 to .89.

Behavioral measures

Self and Team Member Behavior Ratings

We collected data on three behavioral measures: task behavior and two forms of organizational citizenship behavior (helping, voice). During the first year of the program, students are in work teams ranging from 6-8 members. Students rated both themselves and each member of their work team on each of the four behavioral measures. Responses for both self and other-rating options were on a seven-point
Likert scale: “1=strongly disagree; 7=strongly agree.” To generate a single “other-rated” score for each behavior rating, we generated a mean average of the ratings of the other members.

**OCB**

We used a modified 13-item OCB scale, composed of two different types of OCB: helping (7-items) and voice (6-items). The helping sub-scales used were from Podsakoff, Ahearne, and MacKenzie (1997) (α = .95). Items included: “Helps others if someone falls behind in his/her work.” We added one item from the civic virtue sub-scale (Podsakoff et al., 1997) to the helping scale: “Encourages others when someone is down.” The voice sub-scale was from Van Dyne and LePine (1998). The reliability was (α = .92-.93). Sample questions include: “Speaks up with ideas / for new projects or changes in procedures.” For our data set, the 7-item self-rated helping sub-scale had a Cronbach’s alpha of .88, and the other-rated helping sub-scale also had a Cronbach’s alpha of .88. The 6-item self-rated voice sub-scale had a Cronbach’s alpha of .88, and the other-rated helping sub-scale had a Cronbach’s alpha of .79.

**Task behavior**

For task behavior, we used an 11-item scale made up of 7-items from Williams and Anderson (1991) (α = .91). We also included 4-items generated by the students to represent student task behavior in the team context. A sample item from Williams and Anderson is: “Adequately completes assigned duties.” The student-generated items were: “Is on-time for meetings”. “Comes prepared to meetings”. “Maintains open lines of communication”. “Gives advance notice if he/she will not be able to attend a scheduled meeting”. For our data set, the 11-item self-rated task behavior sub-scale had a Cronbach’s alpha of .89, and the other-rated task behavior sub-scale had a Cronbach’s alpha of .94.

**Social Network Measures**

**Social Support and Advice Networks**

Students were provided a roster with the names of all the students in their section. They were asked to rate each peer in terms of two types of social networks: the social support and the advice network. For the social support network we asked students: “To what extent is this person a source of friendship or social support?” For the advice network we asked: “To what extent is this person a source of advice?” For both networks the response options were based on a 6-point Likert scale ranging from 0 (“not at all”) to 5 (“to a great extent”).

**In-degree centrality**
We calculated the in-degree centrality for each member of the network using UCINET (Borgatti, Everett, & Freeman, 2002). In-degree centrality is the sum of the responses each network member gave for each student in their section.

**Control Variables**

Signaling theory explains how a costly behavior generates status in the eyes of others. In this scenario, there are at least three variables at play: an agentic intent to display altruistic behaviors, the displayed behavior, and a responsive interpretation from others. Through our hypotheses, we attempt to identify whether the first component, the agentic intent (i.e. self-rated behavior), explains the impact of PsyCap on social network centrality. With the intent of isolating the impact of an individual’s intentional OCB, and not other-rated job performance, in the mediation model we controlled for several other-rated job performance variables. We controlled for all dimensions of other-rated OCBs, other-rated task behavior, other-rated counterproductive behavior, and other-rated competence. We felt that not controlling for these measures left open the possibility that PsyCap’s impact on centrality was less about the altruistic signal and more about the interpretation of other behaviors and characteristics. We also controlled for proactive personality.

**Proactive Personality**

We assessed proactive personality with Seibert, Crant, and Kraimer’s (1999) 10-item shortened adaptation of Bateman and Crant’s (1993) 17-item proactive personality scale. Response options were on a 7-point Likert scale: “1=strongly disagree; 6=strongly agree.” Questions include: “Wherever I have been, I have been a powerful force for constructive change”. Cronbach’s alpha was .85 in Seibert et al. (2001) and .89 in the current study.

**Competence**

For competence we used the 6-item ability scale from Mayer and Davis (1999). Response options were on a 7-point Likert scale: “1=strongly disagree; 6=strongly agree.” Questions include: “Is capable of performing his/her work”. Cronbach’s alpha for this measure is .85 to .88 (Mayer & Davis, 1999). For our data set, the 6-item self-rated competence sub-scale had a Cronbach’s alpha of .87, and the other-rated competence sub-scale had a Cronbach’s alpha of .93.

**Counterproductive workplace behaviors**

Counterproductive workplace behaviors were measured using 16 items, assessing incivility and aggression. The 7 incivility items were taken from Cortina, Magley, Williams and Langhout (2001). Cronbach’s alpha for this measure is .89 (Cortina et al., 2001). Response options were on a 7-point Likert scale: “1=strongly disagree; 6=strongly agree.” A sample item is: “Puts others down or is condescending to others”. The six aggression items were taken from the Workplace Aggression
Research Questionnaire (WAR-Q) by Neuman and Keashly (2004). Response options were on a 7-point Likert scale: “1=strongly disagree; 6=strongly agree.” Questions include: “Takes credit for the work or ideas of others.” Cronbach’s alpha for the full questionnaire is .89 (Harvey & Keashly, 2003). For our data set, the 16-item self-rated counterproductive workplace behavior sub-scale had a Cronbach’s alpha of .92, and the other-rated counterproductive workplace behavior sub-scale had a Cronbach’s alpha of .93.

**Demographics**

Age, gender, nationality, section, and program served as our primary control variables. Gender was dummy coded (1=female, 0=male). Nationality was dummy coded for US nationals, Indians, and other nationalities. We ran a mixed levels analysis on section and teams using SAS. We found significance only at the section level, and therefore continued to control for section. We also used a dummy variable for the students who only took courses in the MBA program as opposed to students who took courses with other groups (e.g. MBA/JD).

**Analyses**

To analyze hypotheses 1-4, hierarchical regression analyses were conducted using SPSS version 20. For each hypothesis, the control variables were entered in the first step and the independent variable in the second step.

To test the mediation hypotheses (5a-6b), we followed the recommendations of Preacher and Hayes (2008) and used a bootstrapping approach confidence intervals based on 5,000 bootstrapped samples using Preacher and Hayes’ (2012) Mediate macros for SPSS. The bootstrapping procedure is considered more powerful than the causal step procedure for smaller samples (Preacher & Hayes, 2008).

**RESULTS**

Table 1 shows the means, standard deviations, and correlations among the variables. As predicted in Hypothesis 1, PsyCap was significantly and positively related to indegree centrality in the social support network \( (b = .20, \ p < .05) \). For Hypothesis 2, PsyCap was not significantly related to centrality in the advice network. See Table 2 for the results of the regressions.

As predicted in Hypotheses 3a and 3b, PsyCap was significantly and positively related to both self-rated and other-rated task behavior \( (b = .56, \ p < .01; \ b = .16, \ p < .05) \). As predicted in Hypotheses 4a and 4b, PsyCap had a significant and positive relationship with both types of OCB (helping: \( b = .33, \ p < .05 \); voice: \( b = .30, \ p < .05 \)).

In Hypothesis 5, we predicted that OCB (helping) would mediate the relationship between PsyCap and centrality in the social support network (H5a) and between PsyCap and centrality in the advice network (H5b). We also expected that
voice would mediate PsyCap’s impact on centrality in both networks (Hypotheses 6a and 6b). According to Hayes (2009), indirect effects are significant when the 95% confidence intervals do not include zero. The results indicate that the indirect effect of PsyCap on centrality in the social support network through helping was significant (95% CI = 0.02 to 6.49), thus providing support for Hypothesis 5a. The results were also significant for the indirect effect of PsyCap on centrality in the advice network through helping (95% CI = 0.09 to 6.23), also providing support for Hypothesis 5b. There was no evidence of indirect effects for the impact of PsyCap through voice on either network (for the social support network, 95% CI = -1.45 to 3.77; for the advice network, 95% CI = -0.41 to 4.93), thus Hypotheses 6a and 6b were not supported. See Table 3 and Table 4 for the results of the Bootstrap analysis.

DISCUSSION

Luthans and colleagues proposed that employees’ PsyCap is a source of competitive advantage for organizations. The argument for PsyCap’s competitive advantage has been measured primarily through its impact on the job performance of individuals, which as an aggregate adds value to the organization. However, the extant literature has overlooked a fundamental level in organizations: relationships. From a social network perspective, we tested PsyCap’s impact on peer relationships with a sample of 106 graduate students. Specifically, we examined PsyCap’s impact on network centrality in both a social support network and an advice network. We then tested whether PsyCap impacted self and other rated components of job performance: task behavior (both self-rated and other-rated), and self-rated helping and voice OCB. Finally, we looked at whether helping and voice mediated the relationships between employee PsyCap and social support and advice network centrality.

This study makes three main contributions. First, we add to PsyCap research by showing its value in terms of peer relationships. We found that employee PsyCap was significant for peers in determining who they looked to as a source of social support in a network. Peers notice coworker PsyCap and then make relationship decisions based on this information. Our findings are also consistent with the social exchange rule of rationality, suggesting that coworkers use both rational (i.e. cost-benefit evaluation) and emotional (i.e. positivity) information in developing social support relationships with coworkers. We also found that PsyCap influences peer evaluations of task behavior, suggesting that employees also use evidence of positive traits in evaluating the task behavior of their coworkers.

Second, building on those findings, we contribute to the network antecedent research by showing that PsyCap—a state-like construct that helps individuals to become their possible selves—is an antecedent to network centrality. These

1 Traditionally mediation is found through the causal steps approach to testing intervening variable effects (Baron & Kenny, 1986). This approach “requires the researcher to estimate each of the paths in the model and then ascertain whether a variable functions as a mediator by seeing if certain statistical criteria are met” (Hayes, 2009: 410). However, Hayes (2009) points out that the causal steps approach has been heavily criticized, particularly because the process only logically infers the existence of what it attempts to test. Bootstrapping analysis quantifies indirect effects, making “the outcome of a set of hypothesis tests about a and b irrelevant” (Hayes, 2009: 411).
findings fit in with Mehra et al.’s (2001) proposition that individuals purposefully and proactively to shift network structure (141), which both constrains and enables performance (121).

Finally, we contribute to the OCB literature by showing that OCB, in the form of helping, mediated PsyCap’s impact on centrality in the social support and advice networks. In other words, helping behaviors explain how PsyCap leads to centrality. Our findings are consistent with Salamon, Deutsch and Deutsch’s (2006) proposition that OCBs, as altruistic behaviors, are seen by others as signals of greater resources. Hence helping behaviors are interpreted by coworkers as signals of psychological resources in the form of higher PsyCap (i.e. optimism, hope, efficacy and resilience), enhancing the status of an exchange partner. On the other hand, and contrary to our hypotheses, voice did not mediate PsyCap’s impact on centrality. These findings would seem to suggest that coworkers possibly have a harder time seeing voice as altruistic, and possibly see the challenging component of voice (put here) as a signal of criticism and negativity. This interpretation may impact how coworkers understand voice behavior, and even impact how they perceive the signaler. It may be that characteristics of the observer (e.g., emotional intelligence, their own level of PsyCap) moderate how peers interpret a challenging type of OCB, such as voice. In other words, an observer may interpret voice as either challenging or altruistic depending on their own personal qualities.

We should also note that some of our results were unexpected. For instance, with the exception of the significant relationship found of helping as a mediator between PsyCap and the advice network, we found little support for our hypotheses when advice network centrality was the outcome variable. While these results are unexpected, we believe that part of the reason lies in our sample. First, our sample is made up of 106 student peers in an MBA program, hence sample size and possibly context-specific issues might impact the development of advice relationships. For instance, an advice network amongst such similar peers might not generate much value, either in the sense that students feel they are in competition with each other (e.g. grades or status), that they will not get new information, or they do not feel that peers are good sources of advice. This might be similar to Granovetter’s findings of the strength of weak ties (1973). Possibly, in a peer network with more varied profiles (or in a larger sample), PsyCap’s impact on centrality may surface.

We also found no evidence to support voice as a mediator for PsyCap. As Van Dyne and LePine point out, while helping is important to organizations when roles are interdependent and cooperation impacts performance, voice is important in a dynamic environment where new ideas drive improvements (1998: 109). While the environment where our sample was collected can be described as dynamic for students, the interdependence and helping required among team members in completing short-term projects may be more significant than the demand for generating new ideas. In other words, while voicing a new idea about a project might enhance the final product, it might also lead to a more complex interaction that demands greater time investment from students who already are time-starved. Further, while these enhancements may improve the project, they may not significantly impact the final grade for students, who may already get the highest
grade possible without the proposed enhancement. Indeed, in this circumstance, voice might be a signal of a valuable—but also complicated—exchange partner.

Beyond these main contributions, our study also directly addresses three limitations in existing PsyCap research. First, past studies focused exclusively on individual-level outcomes whereas we went beyond those to also look at relational outcomes. Second, past studies have not measured peer assessments of employee job performance. In this study, we measured peers assessments of task behavior as well as two forms of OCB. Finally, while a number of past studies tested PsyCap’s impact on OCB, none had looked at the OCB dimensions of helping and voice.

**Limitations**

Our study has four main limitations. First, the use of college students as research participants may impact the generalizability of our findings. However, while our sample is composed exclusively students, they are graduate students and the average amount of work experience was 5 years. More research is needed in organizational settings with full-time employees.

Second, our social network data is one snapshot of the fluid and dynamic phenomena in social networks. This may impact the degree of confidence with which we can infer causal relationships between PsyCap and centrality in networks. As such, we have tried to limit our use of causal language in interpreting our findings. This may also impact the generalizability of our findings.

A third limitation is the use of self-report data. While self-report data has been found to suffer from some biases in certain situations, we also collected and controlled for several other-rated behavioral measures. Further, our dependent variable (social network centrality) is clearly based on ratings of multiple ‘others.’ As such, we have used a mix of self- and other-rated measures.

A final limitation is the small sample size, which may have reduced the likelihood of finding significant results due to low power (Coen, 1992) Given the small sample size, the results of our analyses indicate the strength of the relationships among PsyCap, OCB and two types of social networks. It is likely that, with a larger sample, current relationships would be even stronger and non-significant relationships (i.e. PsyCap and centrality in the advice network) would be significant.

**Directions for Future Research**

There are three main directions for future research. First longitudinal research is needed to ascertain how and when PsyCap influences the development of social networks. Because PsyCap can be developed, it would be interesting to see whether increasing PsyCap “changes” one’s position in a social network over time. This could be done by capturing numerous perceptions of peers at different time points to assess changes in the network structure. A longitudinal design might also
surface a PsyCap “threshold”, where additional investment would not generate further benefits for individuals and organizations. In other words, we could determine whether “additional” PsyCap has an impact on centrality above and beyond “current” PsyCap. In a similar vein, PsyCap interventions could be developed and tracked to provide evidence that encourages organizational investment and management of employee PsyCap.

A second future research direction lies in establishing the link between PsyCap, centrality and organizational success. Our findings indicate that PsyCap is significant for peers in their social exchange decisions, however, given the context of our study, we were unable to relate social networks, via PsyCap, to organizational success. That is, future research could assess the effect of employee PsyCap on organizational outcomes (i.e. innovation, culture, efficiency, organizational development, growth in market share, sustained operational success, etc.), possibly through its impact on the organization’s social networks.

A third research direction lies in PsyCap’s relationship to OCB. Future studies should include other OCB dimensions (e.g. civic and sportsmanship). Using these dimensions would further clarify the relationship between PsyCap and OCB. Our findings also suggest testing the impact of behaviors on social networks. This type of analysis could be extended to organizational success through the structures of the organization’s social networks. For instance, future studies could contrast the larger social network structure of an organization in the presence of groups of employees engaging in OCB, versus organizations with groups that engage in little OCB, possibly showing that social networks are the vehicles through which OCB impacts to organizational success.

Implications

Our findings have several implications for individuals and organizations. The first is that peers seem to prefer to have social support relationships with individuals who are confident, optimistic, hopeful, and resilient. This may be because interacting with high PsyCap individuals may be an easier, better source of support, as well as more enjoyable, and in general more positive than with individuals low in PsyCap. As such, from a networking perspective, individuals could invest in developing their PsyCap as a way to develop their social networks. Luthans et al. (2006) propose ways that PsyCap can be developed. For instance, hope can be developed by generating work-related goals that are personally valuable, challenging and measurable. Optimism can be developed through a type contingency planning, where obstacles are identified and accounted for. Efficacy can be developed by breaking down a goal into smaller, more manageable steps. Resiliency can be developed by building awareness of personal assets in the form of talents, skills and social networks.

Because PsyCap is also positively related to individual performance (Avey et al., 2011), organizations may want to invest in employee PsyCap development (Luthans et al., 2010). Our findings have implications for this type of investment in that our results show that peers have more interactions with higher PsyCap individuals. If poor coworker interaction is negatively impacting an organization’s
outcomes (e.g., teamwork, creativity), investing in PsyCap development may be a good way to counteract it.

Another implication of our findings is that OCB, in the form of helping behaviors, matters to coworkers in their relationships and may function as a signal of PsyCap. Because OCB helps both individual and organizational outcomes (Podsakoff et al., 2009) and because OCB impacts social network centrality, it may behoove organizations to further promote OCB through reward incentives.

This last implication reminds us of Organ’s empirically-supported notion that helping behaviors impact group and organizational performance—as a form of “social lubrication” between coworkers that helps to access efficiencies (Organ, 1988; Borman & Motowidlo, 1997; Nielsen, Bachrach, Sundstrom, & Halfhill, 2012). The findings of our study shine a light on the impact that positive states and behaviors have on interactions at work. PsyCap is a fountainhead of resources for individuals, which are partly signaled through altruistic behaviors. However, while organizations seem to undervalue these behaviors, coworkers instinctively respond to—and reward—the generative power of helping.

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**Appendix: Scales**

**I. Psychological Capital Inventory**

Psychological Capital Total - All items  
Efficacy: Psychological Capital Efficacy – PC 1-6  
Hope: Psychological Capital Hope – PC 7-12  
Resilience: Psychological Capital Resilience – PC 13-18  
Optimism: Psychological Capital Optimism – PC 19-24

Original PsyCap Scale

(1 = Strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = somewhat agree, 5 = agree, 6 = strongly agree)

1. I feel confident analyzing a long-term problem to find a solution.  
2. I feel confident in representing my work area in meetings with management.  
3. I feel confident contributing to discussions about the company's strategy.  
4. I feel confident helping to set targets/goals in my work area.
5. I feel confident contacting people outside the company (e.g., suppliers, customers) to discuss problems.
6. I feel confident presenting information to a group of colleagues.
7. If I should find myself in a jam at work, I could think of many ways to get out of it.
8. At the present time, I am energetically pursuing my work goals.
9. There are lots of ways around any problem.
10. Right now I see myself as being pretty successful at work.
11. I can think of many ways to reach my current work goals.
12. At this time, I am meeting the work goals that I have set for myself.
13. When I have a setback at work, I have trouble recovering from it, moving on. (R)
14. I usually manage difficulties one way or another at work.
15. I can be “on my own,” so to speak, at work if I have to.
16. I usually take stressful things at work in stride.
17. I can get through difficult times at work because I’ve experienced difficulty before.
18. I feel I can handle many things at a time at this job.
19. When things are uncertain for me at work, I usually expect the best.
20. If something can go wrong for me work-wise, it will. (R)
22. I'm optimistic about what will happen to me in the future as it pertains to work.
23. In this job, things never work out the way I want them to. (R)
24. I approach this job as if “every cloud has a silver lining.”

Altered Scale

PC1-PC24
PC1. I feel confident analyzing a long-term problem to find a solution.
PC 2. I feel confident in representing my team’s work to non-team members (e.g., other students, professors)
PC 3. I feel confident contributing to discussions about the team’s strategy.
PC 4. I feel confident helping to set targets/goals in my team projects.
PC 5. I feel confident contacting people outside the team (e.g., other students, professors, people in business) to discuss problems.
PC 6. I feel confident presenting information to my team members.
PC 7. If I should find myself in a jam at school, I could think of many ways to get out of it.
PC 8. At the present time, I am energetically pursuing my school goals.
PC 9. There are lots of ways around any problem.
PC 10. Right now I see myself as being pretty successful at school.
PC 11. I can think of many ways to reach my current school goals.
PC 12. At this time, I am meeting the school goals that I have set for myself.
PC 13. When I have a setback at school, I have trouble recovering from it, moving on. (R)
PC 14. I usually manage difficulties one way or another with school.
PC 15. I can be “on my own,” so to speak, with school if I have to.
PC 16. I usually take stressful things at school in stride.
PC 17. I can get through difficult times at school because I've experienced difficulty before.
PC 18. I feel I can handle many things at a time at school.
PC 19. When things are uncertain for me at school, I usually expect the best.
PC 20. If something can go wrong for me at school, it will. (R)
PC 22. I'm optimistic about what will happen to me in the future as it pertains to school.
PC 23. At school, things never work out the way I want them to. (R)
PC 24. I approach my studies as if “every cloud has a silver lining.”


II. OCB: Organizational Citizenship Behavior

Organizational Citizenship Behavior Helping – Items OCB1-OCB7
Organizational Citizenship Behavior Civic Sportsmanship – Items OCB8 - OCB10
OCB_Voice: Organizational Citizenship Behavior Voice – Items OCB11- OCB16

Response options on a 7 point Likert scale where 1 is “Strongly Disagree” and 7 is “Strongly Agree.”

OCB1: Helps others if someone falls behind in his/her work.
OCB2: Willingly shares his/her expertise with others.
OCB3: Tries to act like a peacemaker when others have disagreements.
OCB4: Takes steps to try to prevent problems with others.
OCB5: Willingly gives of his/her time to help others with work-related problems.
OCB6: 'Touches base' (checks in) with others before initiating actions that might affect them.
OCB7: Encourages others when someone is down.
OCB8: Always focuses on what is wrong with the situation, rather than the positive side.
OCB9: Consumes a lot of time complaining about trivial matters.
OCB10: Always finds fault with what others are doing.
OCB11: Develops and makes recommendations concerning issues.
OCB12: Speaks up and encourages others to get involved.
OCB13: Communicates his/her opinions about work issues to others even if his/her opinion is different and others disagree with him/her.
OCB14: Keeps well informed / about issues where his/her opinion might be useful.
OCB15: Gets involved in / issues that affect the quality of student life.
OCB16: Speaks up with ideas / for new projects or changes in procedures.

Helping, (α = .95). Civic Virtue & Sportsmanship (α = .98)


Voice


The reliability was (α = .92-.93).

**III. Task Behavior**

Response options on a 7 point Likert scale where 1 is “Strongly Disagree” and 7 is “Strongly Agree.”

   TB1: Adequately completes assigned duties.
   TB2: Fulfills responsibilities.
   TB3: Performs tasks that are expected of him/her by the due date.
   TB4: Meets performance requirements.
   TB5: Engages in activities that will positively affect his/her grades.
   TB6: Neglects aspects of the work he/she is obligated to perform.
   TB7: Fails to perform essential duties.
   TB8: Is on-time for meetings.
   TB9: Comes prepared to meetings.
   TB10: Maintains open lines of communication.
   TB11: Gives advance notice if he/she will not be able to attend a scheduled meeting.

TB1-TB7 (Williams & Anderson, 1991)
TB8-TB11 MBAC 2010 student generated items

The reliability from the Williams and Anderson (1991) study was ($\alpha = .91$).

**IV. Proactive Personality Inventory**

10 item measure

Respondents indicated on a 7-point scale (1 = *strongly disagree* to 7 = *strongly agree*) their levels of agreement that each of the statements is an “accurate description of yourself.”

1=strongly disagree, 2=disagree, 3=slightly disagree, 4=neither agree nor disagree, 5=slightly agree, 6=agree, 7=strongly agree

PP1: I am constantly on the lookout for new ways to improve my life.

PP2: Wherever I have been, I have been a powerful force for constructive change.

PP3: Nothing is more exciting than seeing my ideas turn into reality.

PP4: If I see something I don’t like, I fix it.

PP5: No matter what the odds, if I believe in something I will make it happen.

PP6: I love being a champion for my ideas, even against others’ opposition.

PP7: I excel at identifying opportunities.

PP8: I am always looking for better ways to do things.

PP9: If I believe in an idea, no obstacle will prevent me from making it happen.

PP10: I can spot a good opportunity long before others can.


**V. Competence**

Comp1: Is capable of performing his/her work.

Comp2: Is known to be successful at the things they try to do.

Comp3: Has knowledge about the work that needs to get done.

Comp4: I feel very confident about this person’s skills.

Comp5: Has specialized capabilities that can increase performance.

Comp6: Is well qualified.


The reliability for this measure was .85 to .88.

**VI. Counterproductive Work Behavior**
Counterproductive Work Behavior Incivility- Items CWB1- CWB7
Counterproductive Work Behavior Aggression – Items CWB8- CWB16
CWB8- CWB11: Taken from the WAR-Q scale
CWB12- CWB13: Taken from the WAR-Q scale but are similar to student-generated items
CWB14- CWB16: Student generated items

Response options on a 7 point Likert scale where 1 is “Strongly Disagree” and 7 is “Strongly Agree.”

CWB1: Puts others down or is condescending to others.
CWB2: Pays little attention to others’ statements or shows little interest in others’ opinions.
CWB3: Makes demeaning or derogatory remarks about others.
CWB4: Addresses others in unprofessional terms, either publicly or privately.
CWB5: Ignores or excludes others.
CWB6: Doubts the judgment of others on matters over which they have responsibility.
CWB7: Makes unwanted attempts to draw you or others into discussion about personal matters.
CWB8: Fails to give you or others information that you or they really need.
CWB9: Tends to blame others for own mistakes.
CWB10: Uses his or her status to treat others in a condescending manner.
CWB11: Takes credit for the work or ideas of others.
CWB12: Takes credit for the work or ideas of others.
CWB13: Prevents others from expressing themselves (e.g. interrupts others or dominates discussions).
CWB14: Gossips or conspires about others behind their backs.
CWB15: Contributes to distractions (e.g., takes cell phone calls, checks email, has side conversations).
CWB16: Is not respectful of others’ beliefs and ideas.
CWB17: Does not work in a collaborative or cooperative manner.

Incivility

WAR-Q Aggression
Cronbach’s alpha for the full questionnaire is .89 (Harvey & Keashly, 2003).

**VII. Social Network Data**

Three questions asked students to assess their relationships and interactions with every member of class. These were the instructions to the students:

Instructions: This social network assessment is designed to measure the network connections among you and your classmates. The assessment asks for information regarding with whom you interact on a regular basis and the nature of those interactions. Specifically, for each listed individual with whom you interact you are asked to indicate:

1. The extent to which the person is a source of advice for you.
2. The extent to which the person is a source of social support or friendship.

**Advice**

Response options: To a great extent, To a considerable extent, To a moderate extent, To a limited extent, Not at all

SN_Advice: To what extent is this person a source of advice?

**Social Support**

Response options: To a great extent, To a considerable extent, To a moderate extent, To a limited extent, Not at all

SN_SS: To what extent is this person a source of friendship or social support?
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* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).
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* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).
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**Notes:**

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\(R^2\Delta\) reflects variance in each dependent variable accounted for beyond control variables.

\(* p \leq .01; * p \leq .05\)

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<td>-0.13</td>
<td>-0.11</td>
</tr>
<tr>
<td>Proactive Personality</td>
<td>-0.01</td>
<td>0.02*</td>
<td>-0.14</td>
<td>-0.19</td>
<td>0.02</td>
<td>0.03</td>
</tr>
<tr>
<td>MBA</td>
<td>-0.05</td>
<td>-0.07</td>
<td>-0.07</td>
<td>-0.17</td>
<td>0.05</td>
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</tr>
<tr>
<td>Section</td>
<td>-0.60**</td>
<td>-0.48**</td>
<td>-0.16</td>
<td>-0.06</td>
<td>-0.22</td>
<td>-0.13</td>
</tr>
<tr>
<td>Competence (Other Rated)</td>
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<td>0.01</td>
<td>0.00</td>
<td>-0.27</td>
<td>-0.26</td>
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<tr>
<td>Task Behavior (Other Rated)</td>
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<td>0.01</td>
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<td>-0.10</td>
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</tr>
<tr>
<td>OCB Voice (Other Rated)</td>
<td>-0.05</td>
<td>0.02</td>
<td>0.44</td>
<td>0.22</td>
<td>0.40**</td>
<td></td>
</tr>
<tr>
<td>OCB Sport (Other Rated)</td>
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<td>0.05</td>
<td>-0.37**</td>
<td>-0.25</td>
<td>-0.23</td>
<td></td>
</tr>
<tr>
<td>OCB Help (Other Rated)</td>
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<td>0.02</td>
<td>0.08</td>
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<td>-0.02</td>
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<tr>
<td>CWB (Other Rated)</td>
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<td>0.14</td>
<td>-0.33*</td>
<td>-0.27</td>
<td>-0.23</td>
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</tr>
</tbody>
</table>

**Notes:**

N=106

Standardized regression coefficients.

\(* p \leq .01; * p \leq .05\)
### TABLE 3

**Bootstrap Result**

**Social Support**

<table>
<thead>
<tr>
<th>Indirect Effects</th>
<th>B</th>
<th>s.e.</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>OCB Helping</td>
<td>2.74* (.02, 6.49)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OCB Voice</td>
<td>.91 (-1.45, 3.77)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**

The indirect estimate represents the product of the $X \rightarrow M$ and $M \rightarrow Y$

Numbers in parentheses represents the lower and upper bounds of $t$

Estimates were derived using 5,000 bootstrap samples and are signi

**p ≤ .01; * p ≤ .05**

<table>
<thead>
<tr>
<th>Outcome Variable: Social Support Centrality</th>
<th>B</th>
<th>s.e.</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>OCB Help (Self Rated)</td>
<td>13.70</td>
<td>5.94</td>
<td>0.02*</td>
</tr>
<tr>
<td>PsyCap</td>
<td>-1.37</td>
<td>0.75</td>
<td>0.07</td>
</tr>
<tr>
<td>Age</td>
<td>1.14</td>
<td>6.48</td>
<td>0.86</td>
</tr>
<tr>
<td>Nationality India</td>
<td>26.08</td>
<td>8.23</td>
<td>0.00**</td>
</tr>
<tr>
<td>Nationality Other</td>
<td>21.85</td>
<td>10.61</td>
<td>0.04*</td>
</tr>
<tr>
<td>Proactive Personality</td>
<td>-0.66</td>
<td>4.62</td>
<td>0.89</td>
</tr>
<tr>
<td>MBA</td>
<td>-7.54</td>
<td>10.33</td>
<td>0.47</td>
</tr>
<tr>
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<td>7.55</td>
<td>0.00**</td>
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<td>0.68</td>
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<td>Task Behavior (Other Rated)</td>
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<td>10.39</td>
<td>0.54</td>
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<tr>
<td>OCB Voice (Other Rated)</td>
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<td>7.83</td>
<td>0.74</td>
</tr>
<tr>
<td>OCB Sport (Other Rated)</td>
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<td>7.89</td>
<td>0.99</td>
</tr>
<tr>
<td>CWB (Other Rated)</td>
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<td>0.89</td>
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<table>
<thead>
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<th>Outcome Variable: OCB Helping Self</th>
<th>B</th>
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<th>P</th>
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<tbody>
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<td>0.93</td>
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<td>0.63</td>
</tr>
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<td>Section</td>
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<td>0.05*</td>
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<td>Competence (Other Rated)</td>
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<td>0.07</td>
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<td>0.21</td>
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<td>OCB Voice (Other Rated)</td>
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<td>0.19</td>
<td>0.07</td>
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<tr>
<td>OCB Sport (Other Rated)</td>
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<td>0.06</td>
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<table>
<thead>
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<th>P</th>
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</thead>
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<td>4.31</td>
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<td>10.96</td>
<td>6.10</td>
<td>0.08</td>
</tr>
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<td>-1.34</td>
<td>0.74</td>
<td>0.07</td>
</tr>
<tr>
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<td>6.49</td>
<td>0.94</td>
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<tr>
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<td>26.02</td>
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<tr>
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<td>10.25</td>
<td>0.41</td>
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**Notes:**

Standardized regression coefficients.

**p ≤ .01; * p ≤ .05**
<table>
<thead>
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<th>Outcome Variable: OCB Voice Self</th>
<th></th>
<th>Outcome Variable: Social Support Centrality</th>
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<td><strong>B</strong></td>
<td><strong>s.e.</strong></td>
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<tr>
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<tr>
<td>Gender</td>
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<td>6.53</td>
<td>0.90</td>
<td>0.02</td>
<td>0.16</td>
</tr>
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<td>0.00**</td>
<td>-0.17</td>
<td>0.20</td>
</tr>
<tr>
<td>Nationality Other</td>
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<td>-0.48</td>
<td>0.25</td>
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<tr>
<td>Proactive Personality</td>
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<td>0.89</td>
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<tr>
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<td>10.83</td>
<td>0.83</td>
<td>-0.25</td>
<td>0.27</td>
</tr>
<tr>
<td>Task Behavior (Other Rated)</td>
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<td>0.59</td>
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<td>0.26</td>
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<tr>
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<td>0.96</td>
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<tr>
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<td>12.49</td>
<td>0.95</td>
<td>-0.37</td>
<td>0.31</td>
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</table>

**Notes:**
Standardized regression coefficients.

** p ≤ .01; * p ≤ .05
### TABLE 4

**Bootstrap Result**

Indirect Effects

<table>
<thead>
<tr>
<th>Outcome Variable: Advice Centrality</th>
<th>Outcome Variable: OCB Helping Self</th>
<th>Outcome Variable: Advice Centrality</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B</strong></td>
<td><strong>s.e.</strong></td>
<td><strong>P</strong></td>
</tr>
<tr>
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<td>5.71</td>
</tr>
<tr>
<td>PsyCap</td>
<td>-1.07</td>
<td>0.72</td>
</tr>
<tr>
<td>Age</td>
<td>4.09</td>
<td>6.24</td>
</tr>
<tr>
<td>Gender</td>
<td>20.41</td>
<td>7.92</td>
</tr>
<tr>
<td>Nationality India</td>
<td>17.68</td>
<td>10.21</td>
</tr>
<tr>
<td>Nationality Other</td>
<td>-8.33</td>
<td>9.95</td>
</tr>
<tr>
<td>Proactive Personality</td>
<td>9.24</td>
<td>4.45</td>
</tr>
<tr>
<td>MBA</td>
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</tr>
<tr>
<td>Section</td>
<td>Competition (Other Rated)</td>
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</tr>
<tr>
<td>Task Behavior (Other Rated)</td>
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<td>10.00</td>
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<tr>
<td>OCB Voice (Other Rated)</td>
<td>1.71</td>
<td>7.54</td>
</tr>
<tr>
<td>OCB Sport (Other Rated)</td>
<td>4.34</td>
<td>7.60</td>
</tr>
<tr>
<td>CWB (Other Rated)</td>
<td>13.31</td>
<td>11.54</td>
</tr>
</tbody>
</table>

**Notes:**
- Standardized regression coefficients.
- **p ≤ .01; * p ≤ .05**

The indirect estimate represents the product of the X→M and M→Y relationships. Numbers in parentheses represent the lower and upper bounds. Estimates were derived using 5,000 bootstrap samples and are significant at the **p ≤ .01; * p ≤ .05** levels.
<table>
<thead>
<tr>
<th></th>
<th>Outcome Variable: Advice Centrality</th>
<th>Outcome Variable: OCB Voice Self</th>
<th>Outcome Variable: Advice Centrality</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$B$</td>
<td>s.e.</td>
<td>$P$</td>
</tr>
<tr>
<td>OCB Voice (Self Rated)</td>
<td>0.66</td>
<td>5.71</td>
<td>0.91</td>
</tr>
<tr>
<td>PsyCap</td>
<td>-1.08</td>
<td>0.73</td>
<td>0.14</td>
</tr>
<tr>
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<td>3.97</td>
<td>6.28</td>
<td>0.53</td>
</tr>
<tr>
<td>Gender</td>
<td>20.34</td>
<td>7.92</td>
<td>0.01**</td>
</tr>
<tr>
<td>Nationality India</td>
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<td>9.75</td>
<td>0.08</td>
</tr>
<tr>
<td>Nationality Other</td>
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<td>4.48</td>
<td>0.04*</td>
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<td>Competence (Other Rated)</td>
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<td>0.41</td>
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<tr>
<td>Task Behavior (Other Rated)</td>
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<td>0.82</td>
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<tr>
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</table>

**Notes:**
Standardized regression coefficients.

**$p \leq 0.01$; $* p \leq 0.05$**