RESEARCH INSIGHTS

Helping You, Helping Me?

The Mediating Role of Organizational Citizenship Behavior in the Relationship Between Psychological Capital and Social Network Positions

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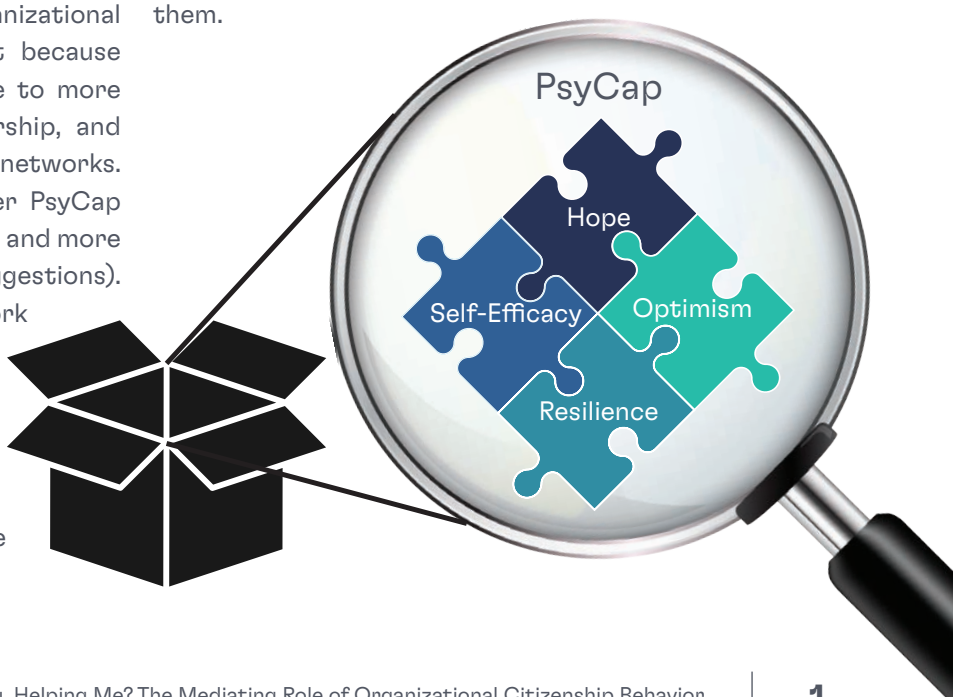
Executive Summary

Over the past few decades, there has been an increasing shift from focusing on what is wrong with humans and organizations (e.g., problems, maladaptive behavior) to focusing on what is right (e.g., strengths, human and organizational flourishing). In this positive vein, we investigated the explanatory role of organizational citizenship behavior (e.g., helping others, volunteering for tasks that help the group or organization, organizing events, speaking up with ideas) in examining the relationship between psychological capital and social network positions. ***Psychological capital*** is an individual's positive psychological state of development and is composed of four positive psychological resources: self-efficacy, optimism, hope, and resilience (Luthans & Youssef, 2004; Luthans & Youssef-Morgan, 2017). Employees with high levels of psychological capital (PsyCap) believe they have control over their own success (efficacy, hope), expect good things to happen (optimism), and rebound more easily following failure (resilience). In other words, PsyCap represents an individual's positive evaluation of circumstances and likelihood for success based on their mindset, drive and persistence (Luthans, Avolio, Avey & Norman, 2007).

Using social exchange theory, we hypothesized that higher PsyCap individuals, due to their greater citizenship behaviors (helping, speaking up), would be perceived as more attractive social exchange partners, thereby achieving greater social network centrality (i.e., having more relational connections in an organizational network). Network centrality is important because it is related to greater career success due to more access to the information, career sponsorship, and opportunities embedded within social networks. Our findings showed that those with higher PsyCap engaged in more workplace helping behaviors and more voice behaviors (i.e., speaking up, making suggestions). PsyCap was positively correlated with network centrality in the social support network (i.e., relationships based on camaraderie and affection), but not in the advice network (i.e., relationships based on information and assistance exchanges). Finally, helping (but not voice) behaviors mediated the relationship between PsyCap and network centrality across both types of social networks. See Figure 2 on page 4 for our supported empirical model.

These insights suggest that fostering PsyCap can enhance an individual's integration and influence within social support networks, with helping behavior playing a crucial explanatory role. Given the strong links between social network positions and important individual and organizational outcomes (e.g., greater access to the information, career sponsorship and opportunities embedded within social networks), understanding the factors that influence central network positions has implications for individual leaders and organizations. For leaders, higher PsyCap may result in greater network centrality *because* such individuals require fewer resources. For organizations, greater PsyCap may result in higher-performing teams and organizations – not only due to PsyCap but also to its positive relationship to citizenship behaviors (helping, voice), which research shows are related to greater organizational efficiency, profitability, productivity, and customer satisfaction. As such, leaders and organizations may want to invest in developing this malleable resource and assess the effectiveness of different PsyCap intervention strategies (see Table 4 for a summary). In sum, psychological capital is a source of competitive advantage – both for high PsyCap individuals as well as for the organizations employing them.



Introduction And Framing

In recent decades, largely prompted by noted psychologist Martin Seligman's call for a 'positive psychology',[1] the organizational sciences have progressively shifted from identifying and addressing problems and maladaptive behaviors to emphasizing strengths and promoting human and organizational flourishing. In this vein, *psychological capital* is defined as an individual's positive psychological state of development, which is composed of four positive psychological resources: self-efficacy, optimism, hope, and resilience (Luthans & Youssef, 2004). Employees with high levels of psychological capital (PsyCap) believe they have control over their own success (efficacy and hope), expect good things to happen (optimism), and rebound more easily following failure (resilience). In other words, PsyCap represents an individual's positive evaluation of circumstances and likelihood for success based on their mindset, drive, and persistence (Luthans, Avolio, Avey & Norman, 2007).

According to Luthans and Youssef (2004), developing higher levels of PsyCap helps people lead more productive and worthwhile lives, thus helping them realize their human potential. Indeed, research shows that PsyCap is positively related to wellbeing as well as to satisfaction with work, health, relationships and overall life satisfaction (Luthans et al., 2013). Importantly, PsyCap is malleable, such that it is open to being developed and changed over time (Avey et al., 2010; Peterson et al., 2011). As such, it is referred to as being 'state-like' (i.e., a temporary way of being with a trait baseline or 'set point') rather than being viewed as a more stable personality trait (Luthans & Youssef-Morgan, 2017).

Research has consistently shown that an individual's position in their social network – in particular, their network 'centrality'– has implications for job performance and career outcomes (see meta-analysis by Fang et al., 2015). Network centrality is determined by how many connections a person has with others in their organizational or professional network (Borgatti & Foster, 2003). Greater network centrality is associated with a range of outcomes, including better access to network resources such as power, career mobility, information, career sponsorship, and more effective leadership (see Brass et al., 2004 for a review).

Within any organization there are multiple types of social networks (e.g., communication network, influence network) operating simultaneously (Borgatti & Foster, 2003; Cole, Schaninger, & Harris, 2002). In our study, we focused on two different networks: the social support network and the advice network. A social support network describes the ties of affection and camaraderie that link individuals (Klein, Saltz, & Mayer, 2004). An advice network describes the relations through which network members exchange information, assistance, and guidance (Klein et al. 2004; Sparrowe, Liden, Wayne, & Kraimer, 2001).

Self-efficacy is a person's confidence that they can be successful at challenging tasks in a specific domain.

Resilience is a person's capacity to bounce back and persevere in the face of challenges.

Optimisn is a person's positive expectation that they will have success now and in the future.

Hope is a person's understanding of the steps necessary to achieve their goals paired with their perceived agency to complete those steps.

[1] Decades earlier, however, psychologists with a humanistic perspective (e.g., Abraham Maslow; Carl Rogers) were already embracing more positive approaches to human behavior.

Social Exchanges, Psychological Capital, and Social Network Positions

Social exchange theory – a foundational theory in the organizational sciences (Blau, 1964; Emerson, 1976; Gouldner, 1960) – proposes that relationships are developed through repeated interactions of exchanges between individuals that build trust over time. These interactions imply mutual obligation between two parties (Emerson, 1976) and are contingent on the behavior of the other person. The norm of reciprocity (Gouldner, 1960), that individuals are expected to reciprocate with in-kind behavior, is a fundamental social rule that helps to maintain relational exchanges over time. Successful social exchanges can lead to high-quality, long-term exchange relationships, which are linked to important work and career outcomes (for reviews, see Carpenter, Li, & Jian, 2012; Cropanzano & Mitchell, 2005; Cropanzano et al., 2017).

From a social exchange perspective, network centrality is ultimately dependent upon being someone with whom others want to form a social exchange relationship. We expect that others are more likely to want to develop relationships with individuals who have higher levels of PsyCap because such individuals possess positive psychological resources (i.e., self-efficacy, optimism, hope and resilience). In a work context, a review of PsyCap studies shows PsyCap is positively related to job performance and positive employee attitudes (e.g., job satisfaction, organizational commitment) and negatively related to less advantageous attitudes (e.g., work stress, anxiety, cynicism) and behaviors (e.g., workplace deviance and counterproductive work behaviors (see reviews by Avey et al., 2011 and Newman et al., 2014). Thus, regarding the social support network, high PsyCap individuals are likely better able to provide social support due to their greater psychological resources. Not only might high PsyCap individuals be able to provide greater support to others, they may also be less likely to *require* as much reciprocal social support as low PsyCap individuals, making them more desirable partners in workplace social exchanges. Indeed, a somewhat neglected aspect of social exchange theory is that not all exchanges are equal (Gouldner, 1960) and high PsyCap individuals may come with more benefits and fewer costs than low PsyCap individuals. Research shows there can be personal costs in dealing with peers who need too much help as it can result in helpers neglecting their own tasks (Barnes et al., 2008).

Regarding the advice network, studies shows that individuals are more likely to seek advice from capable coworkers who do not make them feel uncomfortable or excessively indebted (Borgatti & Cross, 2003). Advice seeking often requires admitting ignorance or uncertainty, such that one risks potential embarrassment or being perceived as less competent (Klein et al., 2004). Given the optimistic and hopeful nature of high PsyCap individuals, they may be perceived as less threatening, less likely to view the advice-seeking coworker negatively, and more willing to provide help and to do so in an upbeat way. They may also be viewed as more capable than their low PsyCap counterparts. In fact, prior research shows a robust relationship between PsyCap and individual performance (Avey, et al., 2010; Avey et al., 2011; Gooty et al, 2009; Luthans, et al., 2010). Therefore, not only do higher PsyCap individuals reduce the perceived cost of a social exchange, but they may also offer greater perceived benefits to coworkers than do their lower PsyCap counterparts. See Figure 1 (on the followinng page) for our theoretical model.

Taken together, high PsyCap peers may be more desirable social exchange partners than low PsyCap peers because there are greater benefits and fewer costs associated with exchanges involving social support or advice. Therefore, we expect that others will approach higher PsyCap peers for more social support and advice, which increases their centrality in these networks.

Hypothesis 1:

There is a positive relationship between PsyCap and network centrality in the (a) social support network and the (b) advice network.

Psychological Capital and Organizational Citizenship Behavior

Organizational citizenship behavior is a type of workplace helping behavior that "supports the social and psychological environment in which task performance takes place" (Organ, 1997, p. 95). Although there are more than 30 specific types of citizenship behavior (see Podsakoff et al., 2000 for a review), we focus on general *helping* and *voice* behaviors. According to Van Dyne and LePine (1998), helping is an affiliative, cooperative, and promotive behavior that builds and preserves relationships, while voice is defined as a more challenging behavior intended to improve the organization through the expression of ideas, new processes or concerns. Past research has consistently found a positive relationship between PsyCap and helping-related behavior (see reviews by Avey et al., 2011 and Newman et al., 2014; Gooty et al., 2009), likely due to the relationship between positive affect and helping behaviors (e.g., George & Brief, 1992; Penner, Midili, & Kegelmeyer, 1997). However, the relationship between PsyCap and voice has been less explored. As such, we focus our theoretical arguments on voice and simply expect to confirm the positive relationship between PsyCap and helping behavior.

Because of their greater psychological resources, higher PsyCap individuals may be more likely to engage in voice than their lower PsyCap peers. First, they may be more willing to take the risk of speaking up due to higher levels of confidence and resilience. Second, given their greater positive affect, higher PsyCap individuals may have broader thought-action repertoires (Fredrickson, 2001). As such, compared to lower PsyCap peers, they may better be able to identify innovative suggestions or potential modifications and to see the organizational benefits that may result from such changes. In addition, given their greater resilience, they may recover more rapidly from any negative repercussions to speaking up (e.g., Burris, 2012). Taken together, we expect to confirm the past positive relationship between PsyCap and helping, and hypothesize a positive relationship between PsyCap and voice.

Hypothesis 2:

There is a positive relationship between PsyCap and (a) helping behavior and (b) voice behavior.

THEORETICAL AND SUPPORTED EMPIRICAL MODELS

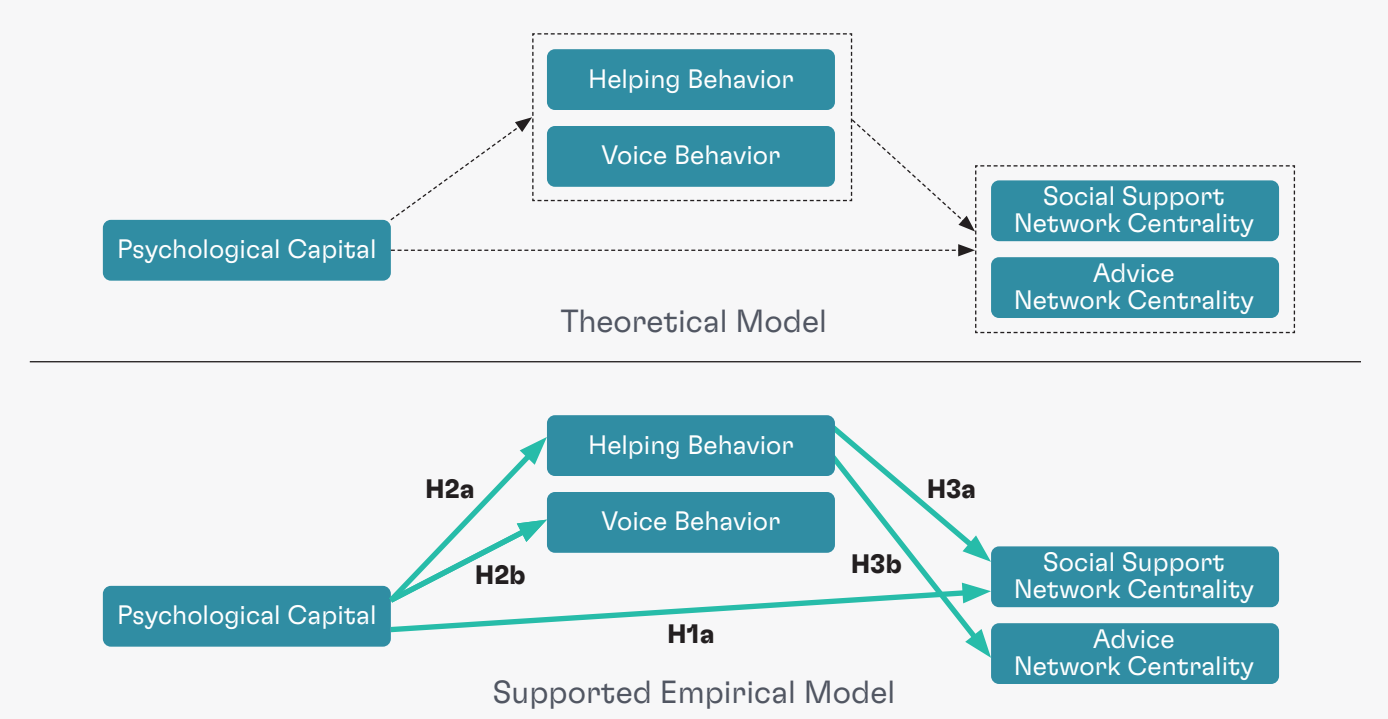


FIGURE 1

Citizenship Behavior as a Mediator Between Psychological Capital and Social Networks

Because greater psychological resources enable higher PsyCap individuals to engage in more citizenship behaviors (helping, voice), they may be viewed as more valuable exchange partners. Although higher PsyCap peers may be less likely to require or request reciprocation for their citizenship behaviors, based on the norm of reciprocity (Gouldner, 1960), social exchanges create a future obligation for the person(s) who received assistance (Blau, 1964; Emerson, 1976). While helping behavior, as a more affiliative type of citizenship behavior, may help develop stronger relationships, voice also creates an obligation to reciprocate. In fact, speaking up can benefit more than one person such that voice behavior may create multiple simultaneous obligations from others. The norm of reciprocity creates an interdependence between individuals which, in social network language, is called a 'tie.' The more ties (i.e., connections) a person has, the more central they are in a social network. Higher PsyCap peers may be particularly desirable as exchange partners because they are both more willing to engage in citizenship behavior and because, despite expected reciprocity, they may not actually require as much reciprocation as lower PsyCap peers. Taken together, engaging in citizenship behavior may result in developing a greater number of ties with others in the network, which translates into more central network positions. Thus, we expect that:

Hypothesis 3:

Helping behavior mediates the relationship between PsyCap and network centrality in the (a) social support network and the (b) advice network.

Hypothesis 4:

Voice behavior mediates the relationship between PsyCap and network centrality in the (a) social support network and the (b) advice network.

Study Design

Sample, Procedures and Measures

Survey data and social network information were collected in a U.S. research university from 106 MBA students (more than 40% were employed full-time) in three course sections. The majority were male (70%) with a mean age of 27.56 years (*SD* = 4.09; range was 21-51 years).

Data were collected at three different time points. At Time 1, we collected participant demographic and personality information, including psychological capital (PsyCap). Eight weeks later, at Time 2, we collected peer behavioral ratings of citizenship behavior (e.g., helping and voice) as well as other behaviors for each participant (e.g., competence, task behavior, counterproductive work behavior). An additional three weeks later, at Time 3, we collected social network information. Study measures are described below and in Appendix A, including sample items for each measure.

Psychological capital (PsyCap). We used the 24-item PsyCap measure (Luthans, Youssef & Avolio, 2007) with a 7-point Likert scale (1 = *strongly disagree* to 7 = *strongly agree*). Scale reliability was .89.

Organizational citizenship behavior. We used a modified 13-item scale, composed of helping, voice and sportsmanship dimensions (Podsakoff et al., 1990; Van Dyne & LePine, 1998), with a 7-point Likert scale (1 = *strongly disagree* to 7 = *strongly agree*). Scale reliabilities were .88, .79 and .77, respectively.

Social support and advice networks. Participants were asked to rate each peer in their course section. For the social support network, participants were asked: "To what extent is this person a source of friendship or social support?" For the advice network, participants were asked: "To what extent is this person a source of advice?" Response options were based on a 6-point Likert scale (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, a statistical software package used to analyze social network data (Borgatti et al., 2002). In-degree centrality is the sum of the responses each network member gave for each student in their course section.

Demographics and control variables. Age, gender, nationality, and course section were our primary demographic variables, along with some additional controls (see Appendix A).

Analytical Approach

To analyze Hypotheses 1-2, hierarchical regression analyses were conducted using SPSS, a statistical software package for the social sciences. The set of control variables was entered in the first step and the independent variable in the second step. To test the mediation hypotheses (Hypotheses 3-4), we followed the recommendations of Preacher and Hayes (2008) and used confidence intervals and a bootstrapping approach with 5,000 bootstrapped samples using Hayes and Preacher's mediation macros for SPSS. See Appendix B for additional details.

Results

Table 1 shows the means, standard deviations, and correlations among the variables. There was a positive correlation between helping and voice, suggesting that individuals who engage in more of one citizenship behavior also tend to engage in more of the other. Helping behavior (but not voice) was significantly correlated with indegree centrality in both networks.

Hierarchical regression results are presented in Table 2 (page 8). As predicted in Hypothesis 1a, PsyCap was significantly and positively related to indegree centrality in the social support network (β = .20, p < .05). However, PsyCap was not significantly related to centrality in the advice network, thus Hypothesis 1b was not supported. As predicted in Hypothesis 2, PsyCap had a significant and positive relationship with both types of citizenship behavior (helping: β = .33, p < .05; voice: β = .30, p < .05), thus providing support for Hypotheses 2a and 2b.

In Hypotheses 3 and 4, we predicted that helping behavior and voice behavior would mediate the relationship between PsyCap and centrality in the social support network (3a, 4a) and between PsyCap and centrality in the advice network (3b, 4b). According to Hayes (2009), indirect effects are significant when the 95% confidence intervals do not include zero. Our results (see Table 3, page 8) indicated that the indirect effect of PsyCap on centrality in the social support network through helping was significant (95% CI = [.02, 6.49]), thus providing support for Hypothesis 3a. The results were also significant for the indirect effect of PsyCap on centrality in the advice network through helping (95% CI = [.09, 6.23]), providing support for Hypothesis 3b. However, 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, 3.77]; for the advice network, 95% CI = [-.41, 4.93]), thus Hypotheses 4a and 4b were not supported. See Figure 2 for our model with supported empirical relationships.

MEANS, STANDARD DEVIATIONS, AND CORRELATIONS

	Mean	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Age	27.56	4.09													
2 Gender	0.30	0.46	.00												
3 Proactive pers.	5.45	0.80	.07	-.02	(.89)										
4 Course section	0.42	0.50	.20*	.16	-0.06										
5 PsyCap	4.98	0.65	.16	-.07	.60**	.08	(.89)								
6 Task behavior	6.23	0.42	.14	.01	-0.02	.03	.16	(.94)							
7 Helping	5.85	0.42	.13	.01	-.13	-.41**	-.05	.50**	(.88)						
8 Voice	5.51	0.51	.21*	-.09	.05	-0.16	.15	.49**	.59**	(.79)					
9 Sportsmanship	5.75	0.50	.01	.10	-.04	-0.06	-.02	.31**	.55**	.15	(.77)				
10 CWB	1.65	0.38	-.10	-.13	.18	-0.14	.11	-.48**	-.53**	-.19*	-.64**	(.93)			
11 Competence	6.24	0.40	.05	-.11	-.02	-0.11	.23*	.68**	.55**	.58**	.28**	-.34**			
12 Advice centrality	48.39	37.26	-.19	-.06	.26**	-.62**	.09	.06	.25*	.14	.05	0.11	0.13		
13 Support centrality	59.84	44.68	-.21*	-.12	.15	-.72**	.12	.10	.35**	.15	.09	0.03	.20*	.90**	

Notes. N = 106. Gender coded as 0 = male, 1 = female. Nationality was dummy coded to represent the majority countries (i.e., U.S., India, other). Proactive pers. = proactive personality; PsyCap = psychological capital; CWB = counterproductive work behavior. Advice centrality = indegree centrality in the advice network; Support centrality = indegree centrality in the social support network. Proactive personality and psychological capital were self-rated; all other behaviors (i.e., task behavior, helping, voice, sportsmanship, counterproductive work behavior, competence, social networks) were peer-rated. Scale reliabilities are on the diagonal.

** p < .01; * p < .05.

TABLE 1

HIERARCHICAL REGRESSION RESULTS

Control Variables	Dependent Variables			
	Network Centrality Social Support	Network Centrality Advice	Helping	Voice
Age	-0.13	-0.12	-0.03	-0.03
Gender	0.01	0.05	0.14	0.01
Nationality (India)	0.24**	0.23*	0.00	-0.09
Nationality (Other)	0.16*	0.15	-0.13	-0.11
Proactive personality	-0.01	0.02*	0.02	0.03
MBA	-0.05	-0.07	0.05	0.02
Course section	-0.60**	-0.48**	-0.22	-0.13
Competence	0.04	0.01	-0.27	-0.26
Task behavior	0.06	0.09	-0.18	-0.10
Voice	-0.05	0.02	0.22	0.40**
Helping	0.05	0.02	0.05	-0.02
Sportsmanship	-0.01	0.05	-0.25	-0.23
Counterproductive behavior	0.00	0.14	-0.27	-0.23
Psychological capital	0.20*	0.00	0.33*	0.30*
R^2	0.63	0.51	0.25	0.25
Adj. R^2	0.58	0.44	0.14	0.13
ΔR^2	0.02*	0.00	0.06**	0.05*
ΔF	5.33*	0.01	7.01**	6.16*

Notes. N = 106. Standardized regression coefficients are reported.
** $p < .01$; * $p < .05$.

TABLE 2

INDIRECT EFFECTS

Mediator	Dependent Variables	
	Network Centrality Social Support Network	Network Centrality Advice Network
Helping	2.74* (.02, 6.49)	2.76* (.09, 6.23)
Voice	.91 (-1.45, 3.77)	1.78 (-0.40, 4.93)

Notes. Numbers in parentheses represent the lower and upper bounds of the 95% bias-corrected bootstrapped confidence intervals, respectively. Estimates were derived using 5,000 bootstrapped samples and are significant when confidence intervals do not include zero.
** $p < .01$; * $p < .05$.

TABLE 3

Discussion

In this study, we examined if and how psychological capital (PsyCap) was related to informal social structures. Specifically, we examined PsyCap's impact on network centrality in two types of networks (i.e., a social support network, an advice network), looked at whether higher PsyCap predicts citizenship behavior (i.e., helping, voice), and investigated whether citizenship behavior mediates the relationship between PsyCap and social network centrality. Taken together, our results show that PsyCap is positively related to centrality in the social support network (but not in the advice network), that higher PsyCap individuals engaged in more helping and more voice behaviors, and that helping (but not voice) mediated the relationship between PsyCap and network centrality in both networks. These results lead to several important insights.

First, they highlight the value of having higher PsyCap individuals in organizations. Due to their greater psychological resources, higher PsyCap individuals contribute above and beyond their formal roles to the organization by engaging in both more helping and more voice behaviors. This is critical as hundreds of studies show the value of workplace citizenship behaviors in terms of their relationship to better organizational and team metrics, including organizational efficiency, profitability, productivity and customer satisfaction, as well as reduced waste and better safety in hospitals and manufacturing contexts (see Podsakoff et al., 2009 and 2014 for reviews).

Second, they highlight the value of having higher PsyCap individuals as peers and the impact of peers at work cannot be overstated. Meta-analytic research with over 75,000 employees shows that coworkers can have even more impact than leaders in terms of job involvement, job satisfaction, organizational commitment, turnover intentions and actual turnover (Chiaburu & Harrison, 2008). Our work shows that peers prioritize higher PsyCap individuals in their relational interaction choices for social support provision, likely because support from those who are more optimistic, hopeful, self-efficacious and resilient may be more helpful and because workplace interactions with such individuals may be more enjoyable. In addition, peers benefit from the fact that their higher PsyCap peers engage in more helping and voice behaviors. Because these behaviors require resources (time, energy), engaging in them may signal greater resources to others (Salamon & Deutsch, 2006), thus enhancing the status of higher PsyCap individuals as workplace exchange partners.

Finally, given the importance of network centrality in influencing work and career outcomes, our results suggest that individuals can shift their network position within a broader structure by how they behave and the (psychological) resources they bring to work. This point is important because psychological states are precursors to behavior (George, 1991) and, unlike personality traits, are more malleable and can be developed in employees (Lupşa et al., 2020; Luthans & Youssef, 2007). Thus, assisting employees to develop higher PsyCap can help coaches, leaders, and mentors looking to improve the quality and quantity of a target employee's relationships within their organization (i.e., with supervisors, peers, direct reports). Indeed, McCoy and Smith (2024) refer to PsyCap as 'developmental jet fuel.'

Practical Implications

Our findings have two main practical implications. First, coworkers seem to prefer social support relationships with those who are confident, optimistic, hopeful, and resilient. As such, given the importance of social networks, it may behoove individuals who are interested in attaining leadership positions to invest in developing greater levels of PsyCap. Research shows that, beyond accounting for genetic or environmental factors, roughly 40% of positivity is under our personal control (Lyubomirsky, 2007), suggesting that such resources are amenable to being developed. Beyond the many benefits of PsyCap (Luthans & Youssef-Morgan, 2017), individuals may find themselves with greater access to the resources (information, career sponsorship, opportunities) embedded within their organizational networks, which can have career benefits in terms of more opportunities, better performance evaluations and pay, and faster career advancement (see Kilduff & Brass, 2010 for a review).

Second, because PsyCap is positively related to individual performance (Avey et al., 2011) and influences how coworkers respond to peers as potential exchange partners, organizations may want to invest in developmental solutions (e.g., coaching, leadership development programs) that improve employee PsyCap (Luthans et al., 2010) and monitor the effectiveness of PsyCap interventions (Lupşa et al., 2020). Research in other areas shows the potential for amplification. For instance, work on the negativity bias shows a five-fold stronger relationship between negative events and negative mood than between positive events and positive mood (Baumeister et al., 2001; Rozin & Royzman, 2001), suggesting the potential for asymmetrical effects in interactions with peers. In addition, we know that PsyCap leads to behaviors that improve organizational performance (i.e., helping, voice). These behaviors function as a form of "social lubrication" between coworkers, can help access team and organizational efficiencies, and help fill gaps in missing or faulty processes (Bergeron et al., 2018; Borman & Motowidlo, 1997; MacKenzie, Podsakoff & Podsakoff, 2018; Organ, 1988).

From Practice to Action: Developing PsyCap

An obvious question resulting from this study is how PsyCap can be developed. As noted earlier, Luthans and colleagues (Luthans et al., 2006; Luthans & Youssef-Morgan, 2017) maintain that PsyCap is malleable and amenable to being developed, with reviews showing small to moderate effects of various PsyCap interventions (Lupşa et al., 2020).[2] Effective PsyCap development interventions (Youssef & Sundermann, 2014) tend to be relatively short (2-3 hours), can be one-off or include multiple sessions and have four main characteristics: 1) desirable and recognized evidence-based outcomes; 2) a focus on influencing malleable individual or team strengths; 3) value-add beyond existing interventions and programs; and 4) a high return on investment.[3] According to Luthans and Youssef-Morgan (2017), rather than being thought of as skill development, PsyCap development is more about fostering positive thinking patterns that help challenge and shift core beliefs and assumptions. Fortunately, most PsyCap interventions tend to develop more than one of the four psychological resources.

PsyCap can also be an unintended outcome of other types of training and development initiatives (see McCoy & Smith for coaching as an example). For instance, CCL's research showed that attending a leadership development program resulted in an increase in psychological capital when assessing pre- and post-program ratings compared to a control group

[2] Eagly (1995) notes that small effect sizes can lead researchers to discount findings that may have considerable implications. Indeed, Abelson (1985) observed that small effects can be meaningful provided that "the degree of potential cumulation is substantial" (p. 133). In terms of the impact of PsyCap on the various domains that it affects (work, health, relationships), and accumulating these benefits over the course of a career (or a lifetime), it seems these effects may be considerable.

[3] A PsyCap training program for high-tech manufacturing engineers found a 270% ROI (Luthans et al., 2006).

(Ruderman & Clerkin, 2015). In addition, participants who were trained in a coherent breathing method (i.e., a type of breathing used to regulate and calm the body) showed increases in resiliency between the start and end of the program. Program participants with existing mindfulness practices entered the program with higher PsyCap scores than participants without such practices. Thus, there may be a variety of methods that can help increase PsyCap. See Table 4 for example PsyCap development strategies and interventions.[4]

PSYCAP AND NETWORK DEVELOPMENT STRATEGIES AND SAMPLE INTERVENTIONS

Strategies to Develop PsyCap Resources	Sample Interventions (exercises and tools)	Scaffolding to Support PsyCap and Network Development
Self-Efficacy • Experience success • Identify role models • Receive positive feedback • Social persuasion and reinforcement **Optimism** • Positive (re)interpretation of events • 'Glass half full' mentality • Develop positive expectancies **Hope** • Design reasonable goals and pathways • Scenario planning and forecasting **Resilience** • Identify and build assets and mitigate risks • Enhance coping skills	Resilience, wellbeing and self-compassion practices SMART goal setting (and ways around potential barriers) Daily positive or gratitude-related experiences or interactions (e.g., journal ritual, appreciation notes) Positive reinforcement based on taking action Feedback methods (e.g., HeartMath® program) Energy-giving and mindfulness practices and exercises (e.g., time in nature, music, yoga, positive people, exercise, healthy eating, hobbies, breathwork, meditation) Ideation exercises ('best possible self' exercise); and recognizing cognitive distortions	Leader Network Diagnostic Leader development programs, including vertical leader development or programs with a network-based component Accountability partner to provide connection and help stay on track Periodic online or face-to-face strengths-based coaching or small group support Web-based training or intervention methods Wellbeing, mental health or habit apps that can provide reminders, encouragement and suggestions Inspirational podcasts, books or videos (e.g., TED talks, speeches, movies) Customized gamification (e.g., Happify) that can track effort, achievements and build connection with like-minded communities

Notes. Many of the ideas in this table are drawn from various PsyCap intervention studies (see a review by Lupşa et al., 2020) as well as from Luthans and Youssef-Morgan (2017, see Figure 4). The sample interventions and scaffolding suggestions are not aligned to a specific psychological resource as many interventions address multiple resources. Instructional design experts should fully understand the resource they wish to develop prior to designing a specific intervention program. Some authors (e.g., Luthans & Youssef-Morgan, 2017) also refer to the PsyCap resources using the acronym 'HERO' (hope, efficacy, resilience, optimism).

TABLE 4

[4] Others have noted the importance of acknowledging that developing PsyCap is not a panacea for a toxic work environment. That is, it cannot overcome a negative culture, unreasonable or uncivil supervisors, ineffective processes and a lack of autonomy (Luthans & Youssef-Morgan, 2017).

Limitations and Future Research Directions

We were somewhat, but not entirely, surprised by the lack of evidence for a direct relationship between PsyCap and centrality in the advice network. This may be due to our sample (or sample size, due to low power, Cohen 1992) or because network centrality in an advice network may be more influenced by expertise in a specific domain rather than by greater PsyCap resources. There was also no evidence to support voice as a mediator between PsyCap and social network positions. As noted earlier, voice is a more challenging type of citizenship behavior and is potentially risky because it is primarily about speaking up with suggestions for change, which challenges the status quo (Van Dyne & LePine, 1998). As such, it is not always well received and has the potential to damage workplace relationships (Detert & Burris, 2007). Indeed, one study showed a negative relationship between voice and career progression (Seibert, Kraimer & Crant, 2001). Other study limitations include the generalizability of the results to other samples and that the social network data is a single snapshot of a dynamic process. These limitations can be addressed with future research.

We briefly highlight several other avenues for future work. First, more longitudinal research on the relationship between PsyCap and social network positions is needed. Such a design might surface a PsyCap threshold, beyond which additional PsyCap has no further positive impact. In addition, it would be a way to study reciprocity over time and to understand the benefits for high PsyCap individuals (e.g., helping others is linked to positive affect, Koopman et al., 2016). Second, although gender was not significantly correlated with our study variables, it should be taken into consideration in future work examining the relationship between PsyCap, helping and social network positions. Due to gendered social roles (Eagly, 1987; Eagly & Wood, 2012) and the greater expectations of women to be helpful at work (Allen & Rush, 2001; Heilman & Chen, 2005), it may be that helping has less impact for women than men in influencing social network positions. Third, as suggested by others (Reichard et al., 2024), additional work is needed at different levels of analysis (e.g., teams) and on how PsyCap may spread through a team or organization via a contagion effect (e.g., due to role modeling of positive leader behaviors). Fourth, it would be interesting to look at PsyCap, citizenship behavior, and network centrality across different leader levels because, at higher levels, helping others increasingly becomes part of the leader role (MacKenzie, Podsakoff & Paine, 1999). Indeed, it may be that PsyCap enhances vertical leader development. Finally, in addition to future work looking at other types of citizenship behavior (see Podsakoff et al., 2000), it would be helpful to look at behavioral, rather than perceptual, measures of helping, voice and social network positions. Given advances in technology and data analytic techniques, studying such behaviors in different contexts is now less costly and more feasible (e.g., Loignon, Bergeron & McKenna, 2024).

In conclusion, psychological capital is a source of competitive advantage. This is true not only for the individuals who possess these greater psychological resources, but also for the organizations that employ such individuals. Leadership development is a way those organizations can help develop these resources in their employees (Luthans & Youssef, 2004).

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Appendix A.
Additional Methodological and Analytic Detail

Psychological capital (PsyCap). This scale was comprised of the four 6-item PsyCap dimensions with items modified to fit an academic context. Sample items were: "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); and "I'm optimistic about what will happen to me in the future as it pertains to school" (optimism). Cronbach's alpha = .89.

Organizational citizenship behavior. The helping, voice and sportsmanship dimensions consisted of 7, 6 and 3 items, respectively. For each dimension, sample items were, respectively, "Helps others if someone falls behind in his/her work," "Speaks up with ideas for new projects or changes in procedures" and "Always finds fault with what others are doing" [reverse-coded].

Because our primary aim was to establish the role of PsyCap in affecting social network centrality, we reduced the likelihood of alternative explanations by controlling for other variables relevant to network centrality, including proactive personality, competence, task behavior, and counterproductive work behavior. All of these measures used a 7-point Likert scale (1 = strongly disagree to 7 = strongly agree). Cronbach's alphas were, respective, .88, .79 and .77.

Proactive personality. We assessed proactive personality with Seibert, Crant, and Kraimer's (1999) 10-item shortened version of Bateman and Crant's (1993) proactive personality scale. Sample item is "Wherever I have been, I have been a powerful force for constructive change." Cronbach's alpha was .89.

Competence. For competence, we used the 6-item ability scale from Mayer and Davis (1999). Sample item is "Is capable of performing his/her work." Cronbach's alpha was .93.

Task behavior. For task behavior, we used an 11-item scale with seven items from Williams and Anderson (1991) and four additional items to represent student task behavior in the team context. A sample item from Williams and Anderson is "Adequately completes assigned duties." The student-generated task behavior items were: "Is on-time for meetings," "Comes prepared to meetings," "Maintains open lines of communication," and "Gives advance notice if he/she will not be able to attend a scheduled meeting." Cronbach's alpha was .94.

Counterproductive work behavior. 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). Sample item is "Puts others down or is condescending to others." The six aggression items were taken from the Workplace Aggression Research Questionnaire by Neuman and Keashly (2004). Sample item is "Takes credit for the work or ideas of others." Cronbach's alpha was .93.

Analytic detail. 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 programs (e.g., MBA/JD).

Appendix B.

COMPETING MEASUREMENT MODELS

	Model Fit			x^2 Difference Test		
	CFI	RMSEA	SRMR	x^2	df	Δx^2
Model 1 (Three-factor)	0.84	0.06	0.09	851.05	609	—
Model 2 (PsyCap and Helping combined)	0.80	0.07	0.11	889.50	610	38.45**
Model 3 (PsyCap & Voice combined)	0.80	0.07	0.11	899.50	610	48.85**
Model 4 (Helping & Voice combined)	0.83	0.06	0.09	874.10	611	23.50**

Notes. PsyCap = Psychological capital.
** $p < .01$.

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