



Influence of Centrality in a Friendship Network on Organizational Citizenship Behaviour

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The relationship between the organizational citizenship behavior of academic staff and certain social network attribute variables, considered from the perspective of a social network needs to be better understood; however, the existing literature is scant and ambiguous. This study verifies the influence of an individual's level of centrality in a friendship network centrality on the organizational citizenship behavior of academic staff, and it explores the mediating role of team cohesion as a potential mechanism in this relationship. This paper uses the structural equation model approach to analyze the sample data, which consists of 187 academic staff from twenty-three scientific research teams. The findings reveal that centrality in a friendship network has a significant effect on teachers' organizational citizenship behavior. The results also demonstrate the mediating role of team cohesion in the relationship between friendship network centrality and organizational citizenship behavior. Specially, the results of the Smart Partial Least Squares (Smart PLS) indicate that this structural model has high predictive power. Theoretical and practical implications and limitations are discussed and suggestions regarding future work are given.

Keywords: organizational citizenship behavior, friendship network centrality, team cohesion, teachers, China

INTRODUCTION

China's higher education system has entered a new phase of quality improvement and connotative development, after the student scale expansion and structural adjustment (Zhao & Liu, 2020). This transformation has promoted the emergence of a large number of newly-established local public universities (NELPUs), which now accounts for over 50% of the public undergraduate universities in China. These new universities face many challenges in terms of talent cultivation, scientific research, and social services (K. J. Li, 2015). For NELPUs, academic staff play a central role in their ability to respond to challenges and develop high-quality curricula (Gao, Wei, He, & Zhu, 2019). Organizational citizenship behavior (OCB) is a positive impact on the task performance

Citation: Zhongfeng, F., & Raman, A. (2023). Influence of centrality in a friendship network on organizational citizenship behaviour. *International Journal of Instruction*, 16(1), 135-150. <https://doi.org/10.29333/iji.2023.1618a>

of academic staff in NELPUs (Xu & Shi, 2016). In addition, OCB can alleviate the source of organizational stressors of academic staff, so as to improve their job performance (Yousefi & Abdullah, 2019). Hence, strengthening the human resource development of academic staff is of great significance for NELPUs, especially for the cultivation and stimulation of OCB (Zhu, Ma, & Gu, 2019).

Most previous study on the antecedents of OCB has focused on individual, organizational, and task characteristics, as well as leadership behavior (Podsakoff, MacKenzie, Paine, & Bachrach, 2000). However, several recent research efforts have begun to examine OCB's antecedents from the viewpoint of social network attributes (Bolino, Hsiung, Harvey, & LePine, 2015; S. M. Li, 2016). The basis of these studies has been that an individual's social environment may affect his/her willingness to exhibit OCB. According to W. B. Liu, Lin, and Li (2013), the more network connections the actors have, the more likely they are to perform OCB. Team cohesion, as an organizational characteristic, can markedly impact OCB (Podsakoff & MacKenzie, 1994). In terms of NELPUs, the work team model, including teaching teams, scientific research teams, and discipline teams, has become an important countermeasure that may be employed to improve organizational efficiency. Further, several studies have shown that in highly cohesive teams, team members typically exhibit higher levels of effort, are more active in sharing knowledge and experience, and practice more positive behaviors (Reagans & McEvily, 2003; L. Zhang & Nie, 2013).

B. Zhang, Tan, and Li (2011) found that the closer an employee is to the center of a friendship network, the more he/she exhibits self-development, willingness to help colleagues and promote interpersonal harmony and proactive behavior. Likewise, positive affect theory explains how and when emotions that are generated by social exchange will produce stronger or weaker connections in relationships, groups or networks, thus affecting team cohesion (Lawler, 2001). Hence, team cohesion may act as a mechanism between the level of a person's centrality in a friendship network and OCB but the study of team cohesion as the mediating variable is still rare in the existing literature (Chiniara & Bentein, 2018). To better understand this potential process, the research conducted for this paper seeks to employ team cohesion to explain the relationship between friendship network centrality and the OCB of an academic staff. The present study has two main objectives: (1) to explore and determine the impact of friendship network centrality and team cohesion on OCB; and (2) to use structural equation modeling (SEM) to explore and verify whether team cohesion mediates the influence of friendship network centrality on OCB.

Literature Review

Variable Definition

The concept of OCB, which has been defined as an employee's spontaneous behavior that is not recognized by the organization's compensation system, was proposed by Smith, Organ, and Near (1983). Teachers' OCB includes being highly committed, willing to help students and other colleagues, and always able and ready to perform other additional responsibilities (Alwi, Wiyono, Bafadal, & Imron, 2021). According to

Organ (1988), altruism, sportsmanship, conscientious behavior, civic morality, and civility are the main factors that constitute OCB. Based on the debate about who is the beneficiary of OCB, Williams and Anderson (1991) proposed a two-dimensional model; the two dimensions are (1) the beneficial OCB of the entire organization (OCB-O) and (2) the beneficial OCB of specific individuals (OCB-I).

A friendship network, as one of the most common networks in informal organizations, is an affective network that requires frequent communication between individuals (Krackhardt & Brass, 1994). According to Degenne and Forsé (1999), degree centrality refers to the number of a focal actor in an organization directly connected to other actors; degree centrality is divided into in-degree centrality and out-degree centrality. The in-degree is the amount of incoming edges allied to a specific actor, and the out-degree is the quantity of departing edges from specific actor (Müller, Reinhardt, & Strickland, 2012). In other words, degree centrality reflects the ability and quantity of actors to grasp resources in the network.

The concept of team cohesion has been widely used in various team research (Carron & Brawley, 2000). Following the views of the main literature, the current study considers “cohesion as a dynamic process that is reflected in the tendency for a group to stick together and remain united in the pursuit of its instrumental objectives and/or for the satisfaction of member affective needs” (Carron, Brawley, & Widmeyer, 1998). For dimensions of team cohesion, the two-dimensional model, including task-related cohesion and interpersonal related cohesion, has been widely employed in the existing research (Severt & Estrada, 2015; Wu & Gu, 2017).

The variables involved in the present study, team cohesion and OCB, are multi-dimensional variables. However, based on the research objective of this paper, these variables were only considered as a whole. Friendship network centrality was measured by the in-degree centrality, because it is based on data selected by others, thus avoiding common method variance.

Friendship Network Centrality and Organizational Citizenship Behaviour

The principle of reciprocity in social exchange theory offers a theoretical basis for the close association between friendship network centrality and OCB. Friendships are developed based on interpersonal interactions among individuals within a network, reflected by partnerships and a high degree of trust (Gibbons, 2004). Over time, these affective bonds will induce altruistic behavior between individuals (McAllister, 1995), and altruistic behavior is an important characteristic of OCB. Moreover, according to Settoon and Mossholder (2002), individuals at the center of the network are more likely to receive rewards and other individuals' dependence when participating in OCBs. Thus, theoretically, individuals having more friendship ties might encourage more OCBs in others.

For empirical studies, the association in this relationship has been minimal, but it has recently attracted the attention of some scholars (Z. Y. Liu, Wei, Zhang, & Chen, 2018; Scott et al., 2018). Two empirical studies of nurses found that friendship network centrality had a positive effect on OCB (Z. Y. Liu et al., 2018; Tsang, Chen, Wang, &

Tai, 2012). Further, the results of S. M. Li (2016) indicated that the degree centrality of a friendship network among employees was positively correlated with initiative, civic morality, helping colleagues, and interpersonal harmony. It should be noted, however, that most recent studies have focused on for-profit organizations, while ignoring non-profit organizations. The relationship between friendship network centrality and OCB in non-profit organizations, such as university academic staff, needs to be examined, because OCB is also important for universities.

Friendship Network Centrality and Team Cohesion

From the perspective of social exchange theory, individuals in an organization can easily form a relationship of mutual trust in terms of internal affective communication. As is suggested by Burt (1992), the more affective connections in this informal contact, the more social support the actors receive, which translates into the internal needs of the members who are willing to stay in the organization. The higher-degree centrality of individuals in the friendship network reflects the greater number of friendship relationships that they have, which undoubtedly contributes to the enhancement of intimacy and the reduction of conflict (Wang, 2006), thus positively affecting team cohesion. In line with this, an actor with higher degree centrality in a friendship network can maintain a more stable social exchange relationship in the organization, which will improve the morale of the whole team, thus improving team cohesion (Wang, 2006). In a word, the higher-degree centrality of a focal actor in the friendship network will enhance team cohesion to some extent.

Likewise, the degree centrality of an individual in a friendship network, which is a unique member factor, can induce a positive attitude in other team members, thus forming stronger team cohesion (Newbolt, Zhang, & Ristroph, 2019). Although the above relationship can be fully explained theoretically, the empirical studies involved are very limited and have not been validly developed. The findings of the empirical studies by J. Guo and Sun (2015) indicate that the friendship network centrality positively affects class cohesion. Congruously, another recent study also demonstrated that friendship network centrality among athletes positively affects team cohesion in school athletic teams (Q. X. Guo, 2015). In short, it is necessary to explore and verify their relationship in other kinds of teams, which is an opportunity for this study to fill this research gap.

Team Cohesion and Organizational Citizenship Behaviour

Team cohesion has been proven to have a relatively stable positive effect on team performance (Greer, 2012), while the research on the relationship between team cohesion and OCB seems to be neglected to some extent. Griffith (1988) found that cooperation, mutual support, and honesty among team members were the prominent characteristics of a highly unified team. Further, George and Brief (1992) clarified that team cohesion can widely affect the affective state of team members, while individuals with a positive affective state usually show more prosocial behaviors, which can also be rationalized through the positive affect theory (Lawler, 2001). Hence, these positive effects of team cohesion constitute the premise for team members to participate in OCB.

In line with the above theoretical explanation, several results of empirical studies of organizational behavior have indicated that the higher the team cohesion, the higher the effort and commitment of the team members, the more willing they are to share knowledge, and the more positive behaviors they exhibit (Reagans & McEvily, 2003; L. Zhang & Nie, 2013). The findings of a recent study from a high-tech company demonstrated that team cohesion is closely related to OCB, and that team cohesion mediates the relationship between servant leadership and service OCB (Chiniara & Bentein, 2018). In addition, some previous studies have provided evidence that employees in a cohesive team are more willing to help others than those in a non-cohesive team (George, 1991; Ng & Van Dyne, 2005). In short, it is of great value to study the relationship between university scientific research team cohesion and academic staff OCB, because it can better expand our understanding of this relationship, so as to fill the research gap in this field.

Variable Definition

Friendship Network Centrality and Organizational Citizenship Behavior: Mediating Effects of Team Cohesion

Based on theoretical analysis and previous empirical studies, the current study preliminarily establishes the relationship among three variables and proposes three hypotheses (H1, H2, and H3). Following the principle of mediating effect (Baron & Kenny, 1986), the current study further suggests that team cohesion plays a mediating role through which academic staff friendship network centrality contributes to team members' OCB. In fact, several empirical studies on team cohesion have focused on the direct relationship between team cohesion and antecedents or outcome variables; small empirical results have shown that team cohesion plays a mediating role in some relationships (Din, 2017; Tassadaq, 2019).

In this study, the researchers propose that friendship network centrality contributes to OCB through team cohesion, which is influenced by friendship network centrality. For academic staff in a scientific research team, friendship network centrality facilitates the cohesion of the scientific research team and inspires greater OCB. Moreover, friendship network centrality on its own may not result in superior outcomes without team cohesion. Academic staff members may transform their friendship network centrality into relevant OCB in a scientific research team. The strength of team cohesion directly affects the OCB of the team members.

METHOD

Procedures and participants

The respondents came from thirty scientific research teams in a NELPU in southern China, and twenty-eight teams volunteered to participate. The researchers distributed questionnaires to 224 teachers from the twenty-eight teams, and they received 203 responses over a two-week period. Since this is a sociocentric study, all members in the team needed to fill out the questionnaire so as to form a complete data matrix for the final statistical analysis. Following the advice of Wasserman and Faust (1994), network

data with a response rate of less than 80% may not be included in further data analysis. Among the data that was supplied, twenty-three research teams had a response rate of 100%, and the other five teams had a response rate of less than 60%. As a result, the current study retained the data of the 23 research teams with a 100% response rate, and a total sample of 187 academic staff. The demographic details of the respondents include gender (116 males and 71 females), age (21 aged 20-30, 93 aged 31-40, 57 aged 41-50 and 16 aged 51-60), title (12 assistant lecturers, 68 lecturers, 91 associate professors and 16 professors), highest education level (9 bachelors, 54 masters and 124 doctors) and tenure (74 for 1-5 years, 54 for 6-10 years, 32 for 11-15 years and 15 for 16-20 years).

At the individual level, the responses of 187 participants were gauged to further analysis and testing of hypothesized relationships which are:

H1: Friendship network centrality has a significant positive influence on OCB.

H2: Friendship network centrality has a significant positive influence on team cohesion.

H3: Team cohesion has a significant positive influence on OCB.

H4: Team cohesion mediates the relationship between friendship network centrality and OCB.

Figure 1 summarizes the hypotheses proposed in this study.

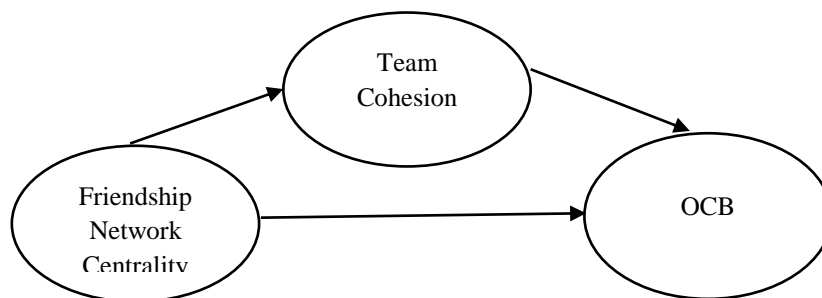


Figure 1
Research model

Instruments

The Organizational Citizenship Behavior Scale (Smith et al., 1983; Williams & Anderson, 1991) was used to measure teachers' OCB in this study, contains 16 items, including two dimensions: OCBI and OCBO. The scale was translated into Chinese and showed good reliability and validity. The Team Cohesion scale (Wu & Gu, 2017), which was developed in a Chinese context, contains 14 items, including two dimensions: affective cohesion and instrumental cohesion. The responses to the above two scales were made on a five-point Likert scale, with the degree ranging from strongly disagree (1) to strongly agree (5).

A list of members of each scientific research team was provided to the respondents for the purpose of conducting a network relationship survey. Following the work of Chen (2004) and L. Liu (2008), this study assessed friendship network centrality by means of two items: “Is [name] a close friend of yours in addition to a formal work relationship?” and “Do you feel comfortable telling [name] about what you care about?”. Meanwhile, Brass (2018) suggested that the data from the sociocentric network survey could be made up of the participants’ responses to items about binary relationships. Specifically, each academic staff in the team was asked to choose “yes” or “no” on the above two items. Selecting “yes” indicated that the relationship existed, while selecting “no” meant that the relationship did not exist. Data on in-degree centrality of the friendship network was calculated using a social network analysis software called UCINET 6.6 (Borgatti & Everett, 2006).

Data Analysis

The researchers employed Partial Least Squares (PLS) to analyze the data. The PLS-SEM (structural equation model) approach is utilized to explain variance in the dependent variables. According to Hair Jr, Sarstedt, Ringle, and Gudergan (2017), PLS has unique advantages for use in processing small sample data, identifying single item structures, and establishing several structure path relationship models. Based on the sample size of 187, the research model is a many constructs theoretical model built on the basis of the subjective evaluation of constructs involved; hence, PLS-SEM is appropriate for this study.

FINDINGS

Using the online calculator called WebPower, it provided the Mardia’s multivariate skewness ($\beta = 0.703$, $p < 0.05$) and the Mardia’s multivariate kurtosis ($\beta = 15.119$, $p > 0.05$), and these results indicate that a multivariate normal was not a problem for the collected data. Meanwhile, the two-stage analytical procedures were used to assess the research model, which included the measurement model and the structural model assessments. The bootstrapping method of taking 5000 re-samples was employed to verify the significance of the path coefficients (Hair, Hult, Ringle, & Sarstedt, 2017).

Assessment Measurement Model

To assess the measurement model, the convergent validity and discriminant validity were examined. Since this model contained multidimensional constructs, an embedded two-stage approach was employed (Sarstedt, Hair, Cheah, Becker, & Ringle, 2019).

Convergent Validity

Measuring convergent validity is usually assessed by evaluating the outer loadings, the composite reliability (CR), and average variance extracted (AVE) value (Ramayah, Cheah, Chuah, Ting, & Memon, 2018). As suggested in the literature, the loadings were all above 0.5 (Byrne, 2016), the composite reliabilities were all above 0.7 (Hair et al., 2017), and the AVE of all constructs were also above 0.5 (Gefen, Straub, & Boudreau, 2000) (see Table 1).

Table 1
The results of CR and AVE

Constructs		Items	Loadings	ρ_c
1 st Order	2 nd Order			
Friendship Network Centrality (FNC)	NA	FNC1	.968	.969
		FNC2	.971	
Team Cohesion – Affective (TC-AC)		TAC1	.803	.929
		TAC2	.797	
		TAC3	.825	
		TAC4	.795	
		TAC5	.829	
		TAC6	.660	
		TAC7	.787	
		TAC8	.798	
Team Cohesion - Instrumental (TC-IC)		TIC1	.745	.899
		TIC2	.800	
		TIC3	.742	
		TIC4	.783	
		TIC5	.765	
		TIC6	.797	
	TC	TC-AC	.935	.935
		TC-IC	.939	
Organisational Citizenship Behaviour - Organisation (OCB-O)		OCB-O1	.724	.902
		OCB-O2	.789	
		OCB-O3	.769	
		OCB-O4	.790	
		OCB-O5	.656	
		OCB-O6	.803	
		OCB-O7	.784	
		OCB-O9	.515	
		Organisational Citizenship Behaviour - Individual (OCB-I)		
OCB-I2	.822			
OCB-I3	.879			
OCB-I4	.822			
OCB-I5	.783			
OCB-I6	.766			
OCB-I7	.777			
	OCB	OCB-O	.855	.851
		OCB-I	.866	

Note. OCB-O8 was deleted to achieve convergent validity requirement.

Discriminant Validity

Measuring discriminant validity was examined in this research by following the heterotrait-monotrait (HTMT) ratio of correlations. If the HTMT value is above HTMT_{.85} value of 0.85 (Kline, 2011), or HTMT_{.90} value of 0.90 (Gold, Malhotra, &

Segars, 2001), then a discriminating validity question occurs. Shown in Table 2, all the values passed the HTMT_{.90} and also the HTMT_{.85}, demonstrating that discriminant validity has been established.

Table 3
The results of HTMT ratio

Constructs	FNC	TC	TC-AC	TC-IC	OCB	OCB-O	OCB-I
FNC							
TC	.605						
TC-AC	.530	-					
TC-IC	.620	-	.846				
OCB	.788	.707	.564	.539			
OCB-O	.609	.467	.457	.433	-		
OCB-I	.585	.532	.518	.500	-	.529	

Assessment Structural Model

Friendship network centrality ($\beta = .493, P < 0.001$) and team cohesion ($\beta = .252, P < 0.001$) had a significant influence on OCB, explaining 44.1% of the variance in OCB. Friendship network centrality ($\beta = .562, P < 0.001$) had a significant effect on team cohesion, explaining 31.2% of the variance in team cohesion. Additionally, for the mediation test, the results indicated that team cohesion significantly mediated the relationship between friendship network centrality and OCB ($\beta = .300, P < 0.001$). Hence, all four hypotheses put forward in this paper are supported. Accordingly, the R^2 value of 0.441 is above the 0.26 value, indicating that it is a substantial model (Cohen, 1992). The results of the structural model analysis (testing hypotheses) are summarized in Table 4 and Table 5.

Table 4
Results of VIF, f^2 , R^2 , and Q^2

Relationships	VIF	f^2	R^2	Q^2
H1: FNC → OCB	1.462	.301	.441	.322
H3: TC → OCB	1.462	.461		
H2: FNC → TC	1.000	.079	.312	.273

Table 5
Results of Significance Testing

Relationships	Std. β	Std. Error	t-value	Confidence Interval		Decision
				LL	UL	
H1: FNC → OCB	.493	.059	8.408***	.389	.581	Accepted
H2: FNC → TC	.562	.054	10.333***	.471	.646	Accepted
H3: TC → OCB	.252	.064	3.911***	.149	.359	Accepted
H4: FNC → TC → OCB	.300	.051	5.871***	.216	.383	Accepted

Note. One-tailed test, *** $p < 0.001$, LL = Lower limit, UL = Upper limit

Then, effect sizes (f^2) were assessed in this study. From Table 4, it can be seen that the effect size of the three direct relationships in the current study were medium (0.301), large (0.461), and small (0.079), respectively, and they all showed substantial effects (Cohen, 1988).

Further, the blindfolding procedure was employed to assess the model's predictive relevance. From Table 4, it can be seen that the Q^2 values are 0.273 and 0.322, respectively, indicating that the current model has sufficient predictive relevance (Hair Junior, Hult, Ringle, and Sarstedt (2014).

In addition, based on the Q^2 prediction value and root square mean error (RMSE), the result of the PLS predictive power is shown in Table 6. For every OCB indicator, the value of PLS-SEM - LM RMSE is negative, demonstrating that all of the PLS-SEM RMSE values are lower than the LM RMSE values, indicating the high predictive power of the current structural model.

Table 6
Results of PLS prediction value

Items	PLS-SEM		LM	PLS-SEM - LM RMSE
	RMSE	Q^2_{predict}	RMSE	
OCB-O	.842	.298	.848	-.006
OCB-I	.849	.287	.852	-.003

Note. LM = Linear regression Model, RMSE = Root Mean Square Error

DISCUSSION

Through SEM analysis, the researchers found encouraging results and all the hypotheses were supported to achieve the research expectations. The findings revealed that the academic staff member's friendship network centrality significantly affected OCB, indicating that the higher the friendship network centrality of the academic staff on the team, the more friends the staff member has, and the more he/she was willing to perform more OCB. Similarly, the results that both the friendship network centrality significantly impacted team cohesion and that team cohesion significantly influenced OCB were demonstrated. More importantly, the results of the mediation analysis showed that team cohesion can be used as a mediating mechanism in this relationship. The results further emphasized and reinforced that team cohesion plays an important role in understanding how the friendship network centrality of an individual directly and indirectly influences his/her extra-role behavior. The current study examines the direct impact of friendship network centrality on OCB and the mediating effect of team cohesion in this relationship within the background of NELPU science research teams in China.

About the friendship network centrality-OCB nexus, the friendship network centrality stimulates academic staff's work engagement and makes them more willing to engage in extra-role behaviors. A recent study also supported the significance of this relationship (Shen, 2018). In addition, many empirical studies have found that friendship network centrality can encourage individuals to help colleagues more often and more significantly, and that it can promote the interpersonal harmony of the collective (!!! INVALID CITATION !!!). Additionally, in terms of the team cohesion-OCB nexus, in a cohesive team, academics can effectively promote their inner sense of belonging, which makes them more active and dedicated at work. The results of present study demonstrated that team cohesion is one of the key determining factors of OCB, and this study results were consistent with those of other recent scholars. For instance, Chiniara and Bentein (2018) found that team cohesion significantly affects OCB, based on the

valid data of 67 teams. Further, with regard to the friendship network centrality-team cohesion nexus, the friendship network centrality of individuals significantly impacts team cohesion, which is consistent with a few previous studies. For instance, a study using data from Chinese manufacturing enterprises indicated that friendship network centrality has a significant correlation with task cohesion and interpersonal cohesion (L. Zhang, 2011).

Finally, this study contributes to the understanding of the latent mediating mechanism of friendship network centrality affecting the OCB of academic staff members in particular, thus adding substantial theoretical value to existing models that describe social network variables as predictors of individual extra-role behavior. The theoretical and practical significance of the research results of this paper are thus validated as important.

IMPLICATIONS

The first theoretical contribution is that the researchers established and validated a theoretical model combining social network theory with team cohesion theory and OCB theory, which was typically not presented by previous studies. The results of this study greatly expands our understanding of the driving factors of OCB, and further supports the basic assumption of social network theory: that an individual is embedded in various networks that may influence that individual's behavior and important outcomes. Second, the current study makes a valuable contribution to the literature on social networks, team cohesion, and OCB by exploring and verifying team cohesion as a mediating mechanism by which friendship network centrality ultimately influences OCB. The establishment of some theoretical arguments can be summarized as the third theoretical contribution of the current study. Few studies have linked the friendship network centrality-team cohesion nexus, the friendship network centrality-OCB nexus, and the team cohesion-OCB nexus together, where team cohesion is used as a mediating mechanism.

Practically, the current research results have practical significance for the leaders of scientific research teams. Team leaders should pay close attention to the two most important driving factors of the OCB of their team members. First, the resources provided by friendship networks, such as emotional and advice support, are critical to motivating the OCB of team members. Team leaders should think about how to better cultivate friendships between members, to maximize their OCB and thus improving the overall effectiveness of the research team. Moreover, the findings of this paper have practical value for university leaders. The university leadership should take various measures to strengthen the cohesion of various work teams, stimulate greater OCB on the part of the academic staff, and promote the benign development of the university. Meanwhile, the leadership also should actively create more platforms, promote emotional communication among academic staff members, help them expand their circle of friends.

LIMITATIONS AND RECOMMENDATIONS

The first kind of limitation is reflected in the research design. First, the researchers employed a cross-sectional approach to data collection, making it impossible to establish a causal relationship between the study variables. To this end, the researchers suggested that future studies should consider a longitudinal approach that seeks to draw

clear conclusions about the causal relationship between each variable. The second limitation is the size of the sample. The current study collected data from only twenty-three scientific research teams, a total 187 teachers, at one NELPU. Future research needs to consider collecting data from more NELPUs in different regions and categories, so as to improve the applicability and universality of the research conclusions. Third, self-reported survey instruments were used to collect data on team cohesion and OCB, which may have caused some common method variance. Future research should consider collecting data in more objective ways, such as third-party evaluation and archival data.

The second kind of limitation is reflected in the research model. First, the current study examined only the effect of friendship network centrality on OCB. Future studies may incorporate social network variables, such as advice networks and intelligence networks, into the research model, and investigate the influence of the centrality of different network types on OCB. Second, in terms of the mediating/moderating mechanism of the model, further research may consider introducing other mediating or moderating variables, such as self-efficacy, organizational support, employee engagement, etc., so as to enhance the model's descriptive ability. Third, the analysis of current research was performed mainly at the individual level, and future research should explore the effect of social network variables on team performance.

CONCLUSION

Although the present study is promising research that provides empirical support, more research will be needed to explore the broad connections between these constructs. As a summary, the current study uniquely integrates the theories of friendship network centrality, team cohesion and OCB, which can further verify the latent influence of friendship network centrality and team cohesion on OCB. Encouragingly, the hypothetical model proposed by the researchers of this work has been empirically supported and validated, providing a platform for theoretical complementary research and progress toward understanding how friendship network centrality increases other organizational outcomes by means of increased OCB.

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