

STRUCTURING LEADERSHIP AND TEAM CREATIVITY: THE MEDIATING ROLE OF TEAM INNOVATION CLIMATE

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Because of rapid technological progress, shortened production cycles, and fierce competition, fostering team creativity has become an important leadership function. However, few empirical researchers have examined the relationship between a structuring leadership style and team creativity. I surveyed 54 participant teams working in Chinese high-tech enterprises to examine the influence of structuring leadership on team innovation climate and its subsequent effect on team creativity. Results indicated that structuring leadership was positively related to both team innovation climate and team creativity. In addition, the results supported the role of team innovation climate as a mediator in the relationship between structuring leadership and team creativity. Theoretical and practical implications are discussed with regard to the ways in which leaders can enhance team creativity.

Keywords: structuring leadership, team creativity, team innovation climate, authoritarian leadership.

Assessing leadership theories from an indigenous perspective is being increasingly recognized as an essential aspect of leadership research in academic circles. Authoritarianism, which is a core dimension of Chinese traditional paternalistic leadership, has always been negatively defined (Du & Choi, 2013). However, as authoritarian leadership may have potentially positive effects, its positivity should be further investigated (Huang, Xu, Chiu, Lam, & Farh, 2015). For example, in modern Chinese society, many businesses, in

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which the leadership style is characterized by authoritarianism, have achieved great success. Authoritarian leadership must, therefore, have some positive and functional elements.

In 2011, T. Chen proposed a two-dimensional authoritarian leadership model, comprising structuring (positive and subordinate-focused) and autocratic (negative and self-serving) leadership. Autocratic leadership is nearly the same as the original concept of authoritarianism, which is dysfunctional and negative in relation to team creativity (Du & Choi, 2013). However, structuring leadership, as a new dimension, deserves scholarly attention to identify its influence on team creativity, which is essential for organizational development.

Because of fierce global competition, organizations constantly struggle to acquire and adapt new knowledge and technologies, and to develop new products to remain competitive. Also, as problem solving has become complicated, for organizations to gain competitive advantage, team creativity has been deemed necessary (Jiang & Zhang, 2014). It has been found that organizations with creative teams have performed best in the long run (Anderson, Potočnik, & Zhou, 2014). *Team creativity* is defined as the generation of new ideas and valuable solutions that are based on collective efforts and a collaborative exchange of perspectives and information (Carmeli & Paulus, 2015). Researchers have found that leadership has a major impact on team creativity, with team innovation climate playing a mediating role (Carmeli, Sheaffer, Binyamin, Reiter-Palmon, & Shimoni, 2014; Zubair, Bashir, Abrar, Baig, & Hassan, 2015). In a team innovation climate, individuals abandon their individual agendas and work together to accomplish new and useful outcomes. In this study, I empirically examined the impact of structuring leadership on team creativity, along with the mediating role of team innovation climate as the underlying mechanism in this relationship.

Theoretical Background and Hypotheses Development

The behavioral manifestations of *structuring leadership* include high-performance demands, regulation, and training of team members (T. Chen, 2011). When there is structuring leadership, this involves team members making continual improvement and extra effort in the work environment, while, at the same time, the style of leadership is subordinate-oriented. When challenging team goals are set by structuring leaders this facilitates team creativity (Anderson et al., 2014).

Previous researchers have confirmed the functional effects of training in leadership practices (Boies, Fiset, & Gill, 2015; Homan, Buengeler, Eckhoff, van Ginkel, & Voelpel, 2015). As an important element of structuring leadership, training and structuring can also promote team creativity by reducing ambiguity

and/or uncertainty about the goals and tasks of the team members. T. Chen (2011) has shown that structuring leadership is positively related to subordinates' job performance and behavior, with regard to helping coworkers. Thus, this leadership style may also help improve team creativity. Therefore, I proposed the following hypothesis:

Hypothesis 1: Structuring leadership will be positively related to team creativity.

Somech and Drach-Zahavy (2013) argued that team creativity depends greatly on the team's social, psychological, and interpersonal context or environment. *Team innovation climate*, which is closely related to team creativity, is defined as team members' shared perceptions of group innovation, and consists of four factors, vision, participative safety, task orientation, and support for innovation (Anderson & West, 1998). First, structuring leaders set challenging goals to realize the team members' vision (T. Chen, 2011). Second, the subordinate-oriented characteristic of structuring leadership can improve participative safety and group interaction (Carmeli et al., 2014). Third, structuring leadership involves directing subordinates' efforts in a task-oriented manner and maintaining commitment to excellence in task performance (T. Chen, 2011; Somech & Drach-Zahavy, 2013). Finally, structuring leadership is positively related to support for innovation (T. Chen, 2011). Team creativity will, thus, be promoted by the use of structuring leadership practices. Previous researchers have found that the influence of leadership style on team creativity is mediated by team innovation climate (e.g., Carmeli et al., 2014; Zubair et al., 2015). Therefore, I reasoned that the relationship between structuring leadership and team creativity may be mediated by team innovation climate. Therefore, I proposed the following hypothesis:

Hypothesis 2: Team innovation climate will mediate the relationship between structuring leadership and team creativity.

Method

Participants and Procedure

Of the 320 survey forms that I distributed, 280 were returned, for a response rate of 87.5%. Respondents were employees of 14 high-tech enterprises in China. They comprised 177 men (66.7%) and 103 women (36.7%). In terms of age, 55 participants were younger than 25 years, 163 were aged between 25 and 35 years, and 62 were older than 35 years. In terms of education, 93.6% of the participants held a college degree or higher academic qualification, and 82.5% of the participants had been employed in their current position for more than one year.

Participants were assured of anonymity and privacy, and their participation was voluntary. All participants completed the survey in 20 minutes, and received a gift worth US\$1. I collected data from 56 work teams. A number was assigned to each of these teams and this team number was written on the back of the survey

forms at the time of collection. Completed survey forms were sorted according to the team number before participants' scores were analyzed.

Measures

Structuring leadership. Structuring leadership was measured using the 12-item scale developed by Chen (2011). Responses are rated on a 6-point scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). I followed the translation and back-translation procedure recommended by Brislin (1980) to ensure conceptual consistency. Translation of all scales was done by an academic who holds a master's degree from a university in the United Kingdom. The back-translation process was completed by a bilingual Chinese Australian academic. A sample item is "My leader asks me to make extra effort with my work." In this study, Cronbach's α was .86.

Team creativity. Team creativity was measured using the six-item scale developed by M.-H. Chen (2006). Responses are given on a 6-point scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). I followed the translation and back-translation procedure (Brislin, 1980) to ensure conceptual consistency. A sample item is "Our team often creates novel and useful ideas on task-related issues." In this study, Cronbach's α was .96.

Team innovation climate. Team innovation climate was measured using the 23-item scale developed by Anderson and West (1998). Responses are given on a 6-point scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). I followed the translation and back-translation procedure (Brislin, 1980) to ensure conceptual consistency. A sample item is "Team members provide practical support for new ideas and their application." In this study, Cronbach's α was .94.

Control variables. I controlled for the variables of gender and mean age, because they could have an impact on team creativity (Anderson et al., 2014; Wang, Rode, Shi, Luo, & Chen, 2013).

Results

Preliminary Analyses

Before aggregating individual-level data to the group level, it was necessary to evaluate whether or not within-group agreement for variables could be conceptualized at the group level. For structuring leadership, team creativity, and team innovation climate, I calculated $r_{wg(j)}$, which is an index of interrater reliability (Wang, Li, Wu, & Liu, 2014). Teams 14 and 35 were excluded because of low interrater reliability, so 54 teams remained for analysis. For structuring leadership, team creativity, and team innovation climate, the mean $r_{wg(j)}$ values were .97, .95, and .95, respectively, which suggested strong within-group

agreement. In addition, results of an analysis of variance (ANOVA) showed that there were significant intergroup differences for structuring leadership, $F(53, 218) = 1.56, p < .05$, team creativity, $F(53, 218) = 2.41, p < .001$, and team innovation climate, $F(53, 218) = 2.38, p < .001$. Hence, the data were suitable for group-level analysis. I averaged the score from the teams to obtain a group-level measure.

Descriptive Analysis

Results of the descriptive analysis of the variables are presented in Table 1. According to the analysis, structuring leadership was positively related to both team innovation climate and team creativity. Team innovation climate was positively related to team creativity.

Table 1. Means, Standard Deviations, and Correlations among Study Variables

Variables	<i>M</i>	<i>SD</i>	Min	Max	1	2	3
1. Structuring leadership	4.47	0.36	3.72	5.31			
2. Team innovation climate	4.67	0.48	3.43	5.92	.59**		
3. Team creativity	4.24	0.63	3.11	6.00	.55**	.80**	

Note. ** $p < .01$.

Hypotheses Testing

To examine the mediating effects of team innovation climate, I followed the three-step approach recommended by Baron and Kenny (1986). In the first step, I investigated the effect of structuring leadership on team creativity. In the second step, I examined the effect of structuring leadership on team innovation climate. In the third step, I entered both structuring leadership and team innovation climate into the regression model to establish whether or not team innovation climate was related to team creativity and whether or not the regression coefficient of structuring leadership decreased.

Table 2. Regression Analysis of the Mediating Role of Team Innovation Climate

Variables	Model		
	Team innovation climate Model 1	Team creativity Model 2	Team creativity Model 3
1. Age	.13	.18	.09
2. Gender	.02	.22	.20
3. Structuring leadership	.62***	.58***	.14
4. Team innovation climate			.70***
R^2	.38***	.41***	.71***

Note. *** $p < .001$. Standardized coefficients are reported.

As shown in Table 2, structuring leadership was positively related to team creativity. Hypothesis 1 was thus supported. According to Model 1, structuring leadership was positively related to the team innovation climate. According to Model 2, structuring leadership was positively related to team creativity. Thus Hypothesis 1 was supported. In Model 3, when structuring leadership and team innovation climate were both entered into the regression model, team innovation climate had a positive effect on team creativity, but the effect of structuring leadership became nonsignificant. Thus Hypothesis 2 was supported.

Discussion

Many researchers have asserted that leadership style has a strong effect on team creativity (e.g., Boies et al., 2015; Carmeli et al., 2014). For example, authoritarian leadership is recognized as a dysfunctional leadership style that exerts a negative influence on team creativity (Du & Choi, 2013). However, T. Chen (2011), through the development of a two-dimensional authoritarian leadership model, set forth the concept of a structuring leadership style and verified that structuring leadership was positively related to subordinate job performance. My findings further show that structuring leadership is functional and has a positive impact on team creativity. Leaders using a structuring style set high but realistic performance goals for team members and insist on continual improvement from their team, both of which are beneficial for team creativity. In addition, as the structuring style of leadership is subordinate-oriented, leaders who use this style tend to help their subordinates avoid making major mistakes, and they reduce ambiguity and/or uncertainty among team members about their goals and tasks, which are actions that are also beneficial for the effectiveness of team creativity.

The results also showed that team innovation climate functions as a mediating bridge to translate structuring leadership into team creativity. According to the componential theory of creativity, work environment and social climate have an impact on creativity by affecting components that contribute to, and serve as, the basic foundation for creativity (Amabile, 2013). My findings lend credence to this theory and highlight the importance of team innovation climate for team creativity. The results are also consistent with those of previous researchers who found that team innovation climate played a mediating role between leadership and team creativity (Carmeli et al., 2014; Zubair et al., 2015). That is, team innovation climate is important in facilitating the striving by team members to achieve the challenging goals set by the leader using a structuring style, and to apply creative ideas, and work together and help one other—actions that are expected by the structuring-style leader.

Theoretical implications in this study are threefold. First, I extended the theory of the positive role that structuring leaders play in team performance (T. Chen, 2011). The results clarify the relationship between a structuring leadership style and team creativity, enriching knowledge of the antecedents of team creativity. Second, I further confirmed the mediating role of team innovation climate in the relationship between a structuring leadership style and team creativity. Third, in this study, I extended the study of leadership from an indigenous perspective, and provided a possible explanation of why many Chinese businesses that are characterized as having authoritarian leadership achieve creative goals. Theoretical contributions in various cultural contexts are necessary because the majority of mainstream leadership theories were developed within a Western context, and the best practices in a Western context may not apply to a non-Western context.

There are also practical implications in this study. I have provided an empirical reference for managers of enterprises who are seeking to achieve team creativity. Currently, the Chinese government strongly encourages managers and owners to conduct their businesses creatively and to drive innovation. Creativity and innovation are regarded as the new engines of China's future social development and economic transformation. Thus, team creativity has a considerable impact on the survival of Chinese enterprises. My study from an indigenous Chinese perspective can play an active part in helping enterprises in this country to improve their core competitiveness.

There are several limitations in this study. First, I analyzed data from 54 teams. Although both hypotheses were verified, they may be better, and more reliably, supported by data obtained from a larger sample. Second, I used a self-report method, which is likely to cause common method variance. Future researchers could use experimental designs to mitigate this possibility. Third, I tested the effectiveness of structuring leadership in a Chinese business context. As all participants were Chinese employees, the results cannot be generalized to cultural contexts beyond China. Future researchers can replicate the results using samples from other East Asian regions to further validate my findings about structuring leadership in a non-Western context.

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