

# The impact of shared leadership on team performance in college student teams: The mediating role of team trust

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**Keywords:** College student team, Shared leadership, Team performance, team trust.

**Abstract.** With the improvement in the diversity of college students' teams, the environment they face is becoming increasingly complex and dynamic. It is particularly important for team members to cooperate for mutual progress and growth. From the perspective of college student teams, this study explored the influence of shared leadership on team performance and analysed the mediating role of team trust. A questionnaire was administered to 185 college students. The results show that shared leadership positively impacts team performance; shared leadership has a positive impact on team trust; team trust mediates between shared leadership and team performance. Finally, based on the research results, this study proposes corresponding management suggestions and provides a feasible direction for improving the efficiency of teams of college students.

## 1 Introduction

With the flattening of team structures and popularity of team-centered management models, shared leadership theory has become increasingly mature as an emerging leadership theory. Shared leadership is a horizontal, informal, and collective leadership model that spreads among team members. It can encourage leaders to change their leadership style, promote leaders to complete the transformation of leadership roles, improve leadership systems and team performance, help each team member more actively, stimulate team morale, and continuously develop and improve teams.

With the continuous increase in the number of college student teams, team diversity has become a prominent feature, making their environments more complex and intensifying competition. Therefore, it is particularly important for team members to work together to

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progress and grow. Regarding team nature, as a type of organization, college student teams not only have a formal organizational nature dominated by team tasks but also an informal organizational nature composed of students who voluntarily and spontaneously unite over long period and have unique behavioural norms. In college student teams, relying on a single leader to solve all problems becomes difficult and the team inevitably requires every member. Team members must be able to actively assume leadership roles while meeting their own or the team's delivered tasks to enhance team development. In college student teams, the members play leadership roles based on their strengths. Each member has different advantages for different team tasks, and on this basis, they can provide reasonable guidance for the completion of the team's task, which will significantly improve team performance. This study explored the relationship between shared leadership and team performance from the perspective of college student teams, providing guidance for their enhanced development.

The contributions of this study are as follows. First, it enriches the theoretical research on leadership by exploring the impact of shared leadership on team performance and appropriately supplements the relevant research literature on shared leadership. Second, this study introduces variables related to team interaction as mediating variables and constructs a model of the impact mechanisms of shared leadership, team trust, and team performance. Organically combining shared leadership with team performance enriches the research on shared leadership and provides a new theoretical perspective on its antecedent variables. Regarding practice, this study focused on a special group of college student teams and investigated how shared leadership impacts team performance, making the research more targeted and practical. Second, this study provides a new perspective on effectively improving college student team performance, leading to more effective task completion and providing a new perspective on how to improve team management performance.

## **2 Literature discussion and hypotheses development**

### **2.1 The concept and connotation of shared leadership**

With increasingly fierce competition in teams' external environments, the internal operation methods of a team are constantly changing, showing increasingly complex trends, and the team structure is becoming increasingly flat. These changes have posed new challenges to the adaptability and decision-making abilities of team leaders and resulted in new requirements, producing the theory of shared leadership. Pearce and Conger (2002) defined shared leadership in *Shared Leadership: Ways and Reasons to Reshape Leadership*, stating that it is a dynamic process that mainly refers to the mutual influence between groups during activities<sup>[1]</sup>. In a team, the full responsibility of a leader does not belong to a single individual, but is rather widely distributed. Therefore, there is no absolute leader, and leadership is related to achieving the team's goals.

Regarding the connotation of shared leadership, Carson, Tesluk and Marrone (2007) identified three dimensions: common goals, social support, and state<sup>[2]</sup>. Common goals refer to their existence when team members have a similar understanding of the team's main goals and take steps to ensure a focus on collective goals. Social support refers to the effort of team members to provide mutual emotional and psychological strength. State is defined as team members' level of investment in how the team achieves its goals.

### **2.2 Relationship between shared leadership and team performance**

Team performance determines whether the quality and efficiency of the work and its members are outstanding. The higher the team performance, and the clearer the development

prospects. Shared leadership behavior involves leaders and team members in team joint management. This requires all team members to participate in decision-making and team building, maximize their potential, and mutually influence others, ultimately affecting overall team actions. In this situation, on the one hand, team members' sense of ownership will be enhanced, and each member will have more opportunities to express their opinions. They can combine resources, share team information, increase work consciousness, and create a harmonious team atmosphere. During this process, team members' recognition and expectations of the team's common goals and culture increase, as do collaboration and communication between members. A reasonable and proactive support system can be established within the team to enhance team synergy and enable members to complete high-performance tasks of high quality. On the other hand, if each team member enjoys autonomy in conducting research, their initiative will be maximized, further enabling them to conduct active and voluntary research. Simultaneously, a mutually supportive atmosphere is formed internally characterized by mutual assistance, knowledge sharing, and progress. Each team member can contribute to team research through their own abilities, work on common tasks, advance towards common goals, and improve the team's task performance. Studies have investigated shared leadership and its positive influence on team performance (Hoch, Pearce & Welzel, 2010 <sup>[3]</sup>; Drescher, Korsgaard & Welpel 2014 <sup>[4]</sup>; Hoch & Kozlowski, 2014 <sup>[5]</sup>). Thus, we propose Hypothesis 1:

Hypothesis 1: Shared leadership has a positive influence on team performance.

### **2.3 Shared leadership, team trust, and team performance**

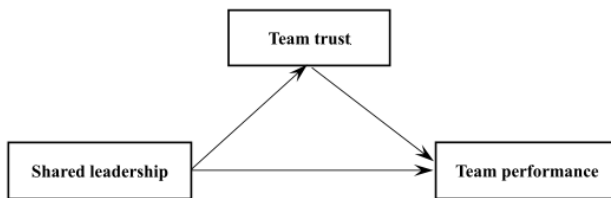
Team trust refers to the psychological state in which team members are confident and have positive expectations of other team member's actions. *Social exchange theory* holds that people's behavior is influenced by whether they can receive uncertain future returns. Shared leadership emphasizes that team members should have the same cognition, vision, beliefs, sense of responsibility, and mission, and that more emphasis should be placed on mutual influence, learning, and sharing. In this process, team members have greater opportunities for mutual communication in a harmonious atmosphere of mutual influence, and trust among members is enhanced during cooperation and communication. Shared leadership weakens boundaries within the team; by constantly changing leadership and membership rolls, members have more opportunities to exchange positions and achieve insights. Simultaneously, owing to shared leadership, there no clear team hierarchy exists, and equality becomes a prominent feature. A harmonious and respectful team culture and an aura of mutual trust are formed. Shared leadership emphasizes the effective sharing of team leadership power among members, endowing them with greater autonomy and significantly enhancing their individual intrinsic motivation. Team members believe that team responsibilities will be shared mutually, which helps establish good relationships with other team members. Simultaneously, the enhancement of team members' sense of ownership strengthens mutual trust, and they work together for better team development. Bergman, Rentsch & Small (2012) found that teams implementing shared leadership have a higher level of internal trust compared to teams without shared leadership <sup>[6]</sup>. Therefore, we propose Hypothesis 2:

Hypothesis 2: Shared leadership has a positive impact on team trust.

Furthermore, as trust relationships within a team develop, more people are willing to exert extra effort in helping their trusted colleagues and the entire team. As trust spreads within a team, cooperative behavior increases, which helps improve team performance. Drescher, Korsgaard and Welpel (2014) found that shared leadership affects team performance through team trust <sup>[4]</sup>. Therefore, considering Hypotheses 1 and 2, we propose Hypothesis 3:

Hypothesis 3: Team trust mediates the relationship between shared leadership and team performance.

Therefore, we developed a mediation model as showing in Figure 1.



**Fig. 1.** Conceptual model.

## 3 Research design

### 3.1 Sample and procedure

College student team members from a university in Shanghai participated in this study. A questionnaire was administered to the participants. We modified the paper version into an online questionnaire platform and generated a QR code. Next, we sent the QR code to the online QQ and WeChat college student groups to collect the data. After excluding six incomplete questionnaires, 185 valid questionnaires were obtained. Among the respondents, 56.2% were female and 42.2% were senior students. In terms of professional disciplines, students majoring in science constituted a relatively large proportion (38.9 %). Of the positions held by the team, 40.5% were team leaders and 59.5% were team members. Regarding team duration, the proportion of teams within three months was relatively high, accounting for 31.4%. Teams with 5-7 people account for a relatively large proportion (39.5 %).

### 3.2 Measures

**Shared leadership** was measured using the seven-item scale developed by Muethel, Gehrlein and Hoegl (2012)<sup>[7]</sup>. Respondents were asked to rate the situation of their team members on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). Items included “Team members will actively develop new working methods to improve team performance.” Cronbach’s alpha for the scale was 0.89. The factor loading of the questions range from 0.72 to 0.82, and the overall explanatory variance was 60.05%. **Team trust** was measured using the five-item scale developed by Simons and Peterson (2000)<sup>[8]</sup>. Respondents were asked to rate the situation of their team members on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). Items included, “Team members are convinced they can trust each other.” Cronbach’s alpha for the scale was 0.90. The factor loadings of the questions range from 0.79 to 0.86, and the overall explanatory variance was 70.52%. **Team performance** was measured using the five-item scale developed by Vegt and Bunderson (2005)<sup>[9]</sup>. Respondents were asked to rate their team’s performance on a five-point Likert scale (1 = strongly disagree and 5 = strongly agree). Items included “Our team often completes tasks quickly and efficiently.” Cronbach’s alpha for the scale was 0.86. The factor loadings of the questions range from 0.77 to 0.83, and the overall explanatory variance was 65.34%. Based on previous studies, we controlled for the possible influences of college students’ team positions (team leader and

team member), team duration, and team size (see Drescher, Korsgaard & Welpe, 2014 <sup>[4]</sup>; Jacqueline et al., 2012 <sup>[10]</sup>).

## 4 Data analysis

### 4.1 Correlation analysis

Table 1 presents the means, standard deviations, and bivariate correlations among the variables. As expected, shared leadership was positively correlated with team performance ( $r = 0.82, p < 0.01$ ) and trust ( $r = 0.79, p < 0.01$ ), and trust was positively correlated with team performance ( $r = 0.79, p < 0.01$ ). In summary, the results of the analysis are consistent with our hypotheses.

**Table 1.** Means, standard deviations, and correlations.

Variables	Means	SD	1.	2.	3.
1. Shared leadership	3.82	0.78	—		
2. Team trust	3.81	0.88	0.79**	—	
3. Team performance	3.72	0.83	0.82**	0.79**	—

Note.  $N = 185$ . \* $p < 0.05$ ; \*\* $p < 0.01$ .

### 4.2 Hypothesis testing

Our direct hypotheses predicted that shared leadership would positively relate to team performance (Hypothesis 1) and trust (Hypothesis 2). To test these hypotheses, we performed the procedure and conducted hierarchical regressions using SPSS 23. As shown in Table 2, after controlling for the effects of team variables, shared leadership was positively related to team performance ( $\beta = 0.83, p < 0.001, M4$ ). Moreover, shared leadership was also positively related to team trust ( $\beta = 0.79, p < 0.01, M2$ ). Thus, hypotheses 1 and 2 are supported.

To test our mediated hypothesis regarding which team trust mediates the relationship between shared leadership and team performance (Hypothesis 3): As shown in Table 2, after controlling for the effects of team variables, the results showed that shared leadership was positively related to team performance ( $\beta = 0.83, p < 0.001, M4$ ). When both shared leadership and team trust were included as predictors, team trust was positively related to team performance ( $\beta = 0.36, p < 0.001, M5$ ), but the effect of shared leadership has become weaker ( $\beta = 0.54, p < 0.001, M5$ ). Thus, H3 is supported.

**Table 2.** Results of the hierarchical regression analysis.

Variables	Team trust		Team performance		
	Model 1	Model 2	Model 3	Model 4	Model 5
Controls					
Team positions	0.03	-0.04	0.01	-0.06	-0.05
Team duration	0.18*	0.06	0.12	-0.00	-0.03
Team size	-0.06	-0.05	-0.05	-0.04	-0.02
Predictors					
Shared leadership		0.79***		0.83***	0.54***
Mediation					
Team trust					0.36***
$R^2$	0.03	0.64	0.01	0.69	0.74
$\Delta R^2$	0.03	0.60***	0.02	0.67***	0.05***
$F$	2.35	81.71***	1.05	100.41***	101.01***

Note.  $N = 185$ . \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

We then used the SPSS PROCESS macro (Model 4) proposed by Hayes (2013) <sup>[11]</sup> to estimate the equations presented earlier with bias-corrected bootstrapped confidence intervals (using 2,0000 bootstrap samples) for the indirect effect. After we controlled for team variables, the indirect effect of shared leadership on team performance through team trust was significant ( $\beta = 0.30$ , 95%, confidence interval: [0.17, 0.45]). Thus, this additional analysis further supports H3 in that the indirect effects are significant.

## **5 Conclusions and recommendations**

### **5.1 Conclusions**

This study focused on the perspectives of college student teams and conducted onsite investigations of college student team members. Clarifying the relationship between team shared leadership and team performance and verifying the mediating role of team trust. The research results indicate that shared leadership positively impacts team performance; shared leadership positively impacts team trust; and shared leadership positively impacts team performance through team trust.

The results for Hypothesis 1 indicate that shared leadership positively affects team performance. Specifically, in teams implementing shared leadership, on the one hand, each team member can enjoy leadership power equally, which can appropriately enable each team member to gain a sense of self-identity and feel their self-worth within the team. To some extent, this encourages team members to actively and proactively complete tasks. Moreover, this stimulates the motivation to acquire new knowledge and skills. By stimulating new knowledge and skills, members are motivated to complete higher-quality teamwork. The test results for Hypothesis 2 indicate that shared leadership has a positive impact on team trust. When shared leadership is implemented in a team, members' trust is enhanced. The results of Hypothesis 3 indicate that team trust mediates the relationship between shared leadership and team effectiveness. This finding shows that shared leadership's impact on team effectiveness can be achieved through team trust. Implementing shared leadership strengthens internal team trust, thereby improving team task performance and promoting enhanced team effectiveness. Shared leadership emphasizes teamwork. When team members engage in mutual sharing, communication, and assistance within the team for a common goal, a cooperative team forms featuring a high level of cooperation. Team members are more likely to trust each other, which is conducive to the better completion of team tasks.

### **5.2 Management recommendations**

#### *5.2.1 Creating a team atmosphere of shared leadership*

Shared leadership creates a relaxed and harmonious atmosphere of communication among team members. It continuously enhances trust and strengthens cohesion between teams, effectively improving members' task performance with the team, thereby improving performance. Regarding team expectations among college students, members prefer to participate in a team where no clear division exists between superiors and subordinates and there is no differential treatment. All members are treated respectfully and speak freely in a harmonious atmosphere. They can also utilize their expertise to complete team tasks, realize their own values, and contribute more to the team. Therefore, this study suggests that college student team leaders should first fully utilize the strengths of team members to better complete team tasks and achieve top performance, which will help members improve task

performance. Second, this enhances information sharing among team members to mutual learning. Once team members have a common stance, values, culture, sense of responsibility, and sense of mission, there will be greater mutual resonance and understanding. Members will also have greater willingness to work together for the team and actively participate in team tasks, which affects their team participation and satisfaction. Third, the team should focus on building collaborative teams. This empowers and encourages members to actively participate in team building; discuss and interact fully with team goals and work tasks; and form a cooperative atmosphere that encourages members to communicate, discuss, and participate in decision-making. Team members' performance may vary under different team atmospheres. Shared leadership is more likely to succeed in a good team atmosphere through the active interaction of team members.

### 5.2.2 Enhance team trust

The implementation of shared leadership is essential for team trust. Team members should encourage and trust each other. Additionally, each member cannot perform without contributing. Each member is equal. Therefore, each member should also make equal contributions; simultaneously, they should actively, consciously, and realistically recognize other members' contributions so that the team develops healthily. Positive interaction among team members generates trust. If most members are willing to trust the team and its members and believe that other members also trust the team, trust within the team becomes universal. A positive team atmosphere will help teams to grow positively. Therefore, this study suggests, first, that attention should be paid to building an atmosphere of team trust in college student teams. Team leaders should pay timely attention to the thoughts and behaviors of members; shape a positive, optimistic, upward, and enterprising team culture; enhance trust; and promote continuous improvement of team performance by increasing trust among team members. Second, college student teams should pay greater attention to maintaining trust, ranging from communication and the exchange of daily task details to handling emergencies. Trust can be cultivated among members with different backgrounds and activities, and team trust develops using team goals that members identify with and support. Only by forming a positive atmosphere of trust within a team can trust develop more actively and healthily.

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