

Research on the Impact of Temporal Leadership on Creativity

Na Yin^{1, a}, Chungang Lang^{1, b}

¹School of Xidian University, Xi'an 710000, China.

^a670857220@qq.com, ^b11988019@qq.com.

Abstract

Previous studies have found that leadership styles can have different effects on team performance and team innovation. In a fast-paced society, time is the most critical factor, but it is often overlooked. Therefore, the purpose of this paper is to explore the influence mechanism of temporal leadership on creativity level through experimental research and enterprise questionnaire research. The influencing process is based on the relationship between temporal leadership and emotional regulation, self-efficacy and procrastination, with time pressure as the moderating variable. The study found that temporal leadership has a significant impact on creativity level, which can provide a basis for enterprises to cultivate highly creative teams.

Keywords

Creativity, Temporal leadership, Emotional regulation, Self-efficacy, Time pressure.

1. Introduction

The central idea of temporal leadership is to establish a reasonable and effective time management mechanism, allocate and coordinate members' time resources, so that members can coordinate with each other at a unified pace and complete tasks within a prescribed period ^[1]. that is, temporal leadership can affect employee behavior and mental state to improve performance. Based on the relevant research theories of organizational behavior, temporal leadership can not only strengthen team cohesion, but also improve team sharing time cognition and reduce team time conflicts ^[2]. Based on the theoretical model of temporal leadership, it can be concluded that temporal leadership can affect team performance and innovation ability from three levels of organization, team, and individual, and can also use organizational culture, emotional regulation, and individual cognition as mediating variables, affect team performance and team innovation. In the process of influence, people's mental state, work behavior and work style will also change significantly. Therefore, it is of theoretical and practical significance to study the effect of temporal leadership on the level of creativity. Time is the most critical factor for team development. How to effectively use time resources and solve problems in a short period of time to win opportunities and improve team competitiveness is very important. Time pressure has different effects on the team ^[3]. In the study of the influence of temporal leadership on the level of creativity, this paper uses time pressure of different degrees as a regulating variable, and based on the theory model of temporal leadership, conducts an in-depth study of the internal mechanism of temporal leadership. The research on the influence of temporal leadership on creativity level includes: (1) the influence of temporal leadership on creativity level; (2) the influence of time pressure on the relationship between temporal leadership and emotional regulation; (3) the influence of time pressure on the relationship between temporal leadership and self-efficacy; (4) the influence of time pressure on the relationship between temporal leadership and procrastination.

Initial research on temporal leadership was positioned at the organizational level, and until 2011, it was positioned at the team level. It is defined as a leadership behavior that reduces team time issues, reasonably allocates members' time resources, and coordinates task time, so that members can complete tasks rhythmically within a specified period.

2. Research Hypothesis

Hobfall's research answers why we should focus on leadership behaviors in practical situations, that is, the core manifestation of leadership behaviors: reducing team problems, rationally allocating resources, creating performance, and gaining innovation^[4]. It affects team innovation and team performance by affecting employee behavior. From the perspective of resource conservation theory and achievement motivation theory, leadership itself can not only strengthen the motives and behavioral status of members, but also reduce the loss of resources and create more resources. Based on this, the following assumptions are proposed.

(1) Temporal leadership and creativity

Mohammed's research on the time effect model confirmed that temporal leadership has a positive effect on team performance and team innovation^[5]. On the basis of enriching the theoretical framework of time, Francis confirmed the positive influence of temporal leadership on team effectiveness and personal effectiveness. Based on the IPO theory, it can be found in the research on temporal leadership: When the team adopts temporal leadership, it can make the team more consistent, the work rhythm clearer, and the output more efficient. so this study proposes the following assumptions:

H1: Temporal leadership has a positive impact on the level of creativity.

(2) Temporal leadership and emotional regulation

Bandura confirmed that individuals' emotional regulation ability will be significantly affected by many factors, and these differences are specifically reflected in emotional management ability, perception ability, understanding ability and so on. From the research results of scholars, we can know that leadership style and behavior will have a significant impact on emotional regulation. The stronger the transformational leadership, the stronger the ability to regulate emotions, the higher the performance of employees, and the easier it is to reflect creativity. When the reference standard analysis is selected, the influence degree of transformational leadership and inclusive leadership on employees' emotional regulation is different, and time management ability has a significant positive impact on emotional regulation. In a team with a strong time management ability, members' emotions are more stable and their adjustment ability is stronger. Based on this, the following assumptions are put forward:

H2: Temporal leadership has a positive effect on emotional regulation.

H3: Temporal leadership affects creativity by affecting emotional regulation.

(3) Temporal leadership and self-efficacy

Smith believes that self-efficacy can influence personal abilities, decision choices, and work motivation. Schwarzer believes that self-efficacy expresses self-confidence at work and promotes team performance. Self-efficacy is not only included in the achievement of team goals, the behavioral capacity and behavioral status shown by employees, but also the enthusiasm in the work process and the sense of accomplishment of completing tasks. Self-efficacy can affect employees through their own behavior choices, energy input, persistence to tasks, and strong mentality and ability to arouse abilities to achieve better development. Time management has a significant positive impact on team development. The stronger the time management ability, the stronger the employee's sense of effectiveness and the higher the performance. so the following hypothesis is put forward:

H4: Temporal leadership has a positive effect on self-efficacy.

H5: Temporal leadership affects creativity by affecting self-efficacy.

(4) Temporal leadership and procrastination

Powell pointed out that procrastination is not only affected by individual traits, but also related to team organizational factors. Under different leadership styles, it can have a significant impact on the level of procrastination. When using time-related variables, the leader's time management ability will make members aware of the priority of tasks and related important time nodes, in order to reduce

employee delays, keep employees' thinking ability at an active level, and achieve more effective work. George and Jones's scenario theory confirms that employees' innovative behavior and level of creativity are significantly affected by leadership behavior styles. so the following hypothesis is put forward:

H6: Temporal leadership has a positive effect on self-efficacy.

H7: Temporal leadership affects creativity by affecting self-efficacy.

(5) The regulating role of time pressure

Zakay's research points out that time pressure is a process of feedback adjustment. It is a process of making individuals have different reactions and emotional states due to time constraints, and perceiving time pressure through understanding and improvement of reactions and states Kinicki and Vecchio believe that time pressure is caused by the sense of urgency brought about by completing tasks within the prescribed time. Andrews and Smith believe that time pressure refers to the urgency of the tasks performed by employees in a limited time^[6]. The existence of time pressure will have a positive impact on individuals. The reason is that the lower the time pressure, the lower the pressure felt by members, and the higher the degree of relaxation of nerves and brain thinking. The low-time pressure environment leads to a decline in members' hands and brainpower. During the interaction process, they show a lazy posture, which leads to a slowdown of cooperation among members, a decline in the ability to think about problems, and fail to reach the working level, so the following hypothesis is put forward:

H8: Time pressure positively regulates the relationship between time leadership and emotional regulation.

H9: Time pressure positively regulates the relationship between time leadership and self-efficacy.

H10: Time pressure negatively regulates the relationship between time leadership and procrastination.

3. Experimental Task and Data Sources

This research adopts two methods of enterprise questionnaire and experiment design. The company's questionnaires were collected from employees in various companies. Experimental design In order to reduce the impact of other factors on this research, sample experiments will be used in the laboratory to further verify research hypotheses and models. A total of 132 students were invited to participate in this study. The experimental design was 2×2 and divided into 44 groups.

In the experiment, time leadership is used as independent variable, there are high and low levels. As a moderating variable, time pressure has two levels, high and low. The dependent variable is the level of creativity of the member. The leader of the experiment is a designated person, and the leader needs to be trained before the experiment begins. The time pressure is based on the time measurement results of the pre-experiment. The time range of the high time pressure group and the low time pressure group is set. The content of the experiment is about the task of measuring the level of creativity. During the task, for the groups of different time pressure levels, there will be designated leaders to organize members to complete the task within a specified time, and to determine the creation of members based on the results of the evaluation. The level of force. At the end of the experiment, a questionnaire was distributed on the spot for questionnaire surveys.

4. Result analysis

A total of 197 questionnaires were collected from the company, and the completion rate of the questionnaire was 100%. Excluding 13 questionnaires with regular responses, a total of 184 valid questionnaires were recovered, and the effective recovery rate was 93.4%. There were 132 valid data in the experiment. After the data were aggregated into team variables, they were analyzed by SPSS software. Analysis of enterprise data and questionnaire data shows that Cronbach α are greater than 0.7 and KMO values are greater than 0.8, so the reliability and validity are good.

According to the experimental results, in the experimental data, by analyzing the correlation between temporal leadership and experimental scores and the level of creativity, it was found that there was a significant positive correlation between temporal leadership and experimental scores and the level of creativity ($r = 0.688$, $p < 0.01$; $r = 0.684$, $p < 0.01$). In the enterprise data, through the correlation analysis of temporal leadership and creativity level, it was found that there was a significant positive correlation between temporal leadership and creativity level ($r = 0.79$, $p < 0.01$). Independent sample T test on experimental data, the results show that the team with higher temporal leadership has higher level of creativity, hypothesis 1 is verified.

It can be known from the analysis results of experimental data and enterprise questionnaire data. In the analysis of experimental data, temporal leadership has a significant positive impact on emotional regulation and self-efficacy ($r = 0.68$, $p < 0.01$; $r = 0.69$, $p < 0.01$), and temporal leadership has a significant negative impact on procrastination. Relationship ($r = -0.342$, $p < 0.01$). In the analysis of corporate data, the results show that temporal leadership has a significant positive impact on emotional regulation and self-efficacy ($r = 0.473$, $p < 0.01$; $r = 0.539$, $p < 0.01$), Time leadership has a significant negative impact on procrastination ($r = -0.484$, $p < 0.01$). The independent sample T test was used on the experimental data. The results show that the differences in team temporal leadership have significant differences in self-efficacy, emotional regulation, and procrastination. Therefore, H2, H4, and H6 are verified.

An analysis of the mediating effect of emotional regulation can be obtained. In the experimental data, temporal leadership has a significant positive correlation with the experimental score and creativity level ($b = 5.044$, $p < 0.01$; $b = 0.756$, $p < 0.01$). Emotional regulation positively affects experimental scores and creativity levels ($b = 6.678$, $p < 0.01$; $b = 0.897$, $p < 0.01$). In company's data, temporal leadership and creativity levels were significantly positively correlated ($b = 0.731$, $p < 0.01$), Emotional regulation positively affects creativity ($b = 0.564$, $p < 0.01$). Combine temporal leadership and mood regulation with experimental regression and creativity levels. In company's data. The regression coefficients of temporal leadership on experimental scores and creativity levels decreased significantly; in the enterprise questionnaire data. The regression coefficient of temporal leadership on the level of creativity decreases. Therefore, in the influence of temporal leadership on the experimental score and the level of creativity, emotion regulation plays a mediating role, and it is a partial mediator. H3 is verified.

Through the analysis of the mediating effect of self-efficacy. In the experimental data, self-efficacy positively affected the experimental score and creativity level ($b = 4.838$, $p < 0.01$; $b = 0.693$, $p < 0.01$). In corporate questionnaire data, self-efficacy positively affected creativity ($b = 0.679$, $p < 0.01$). Combine temporal leadership and self-efficacy with experimental scores and levels of creativity, In the experimental data, the regression coefficient of temporal leadership on the experimental score and creativity level decreased significantly; In the enterprise questionnaire data, the regression coefficient of temporal leadership on the level of creativity decreased significantly. Therefore, in the influence of temporal leadership on the experimental score and the level of creativity, self-efficacy plays a mediating role, and it is a partial mediator. Hypothesis 5 is verified.

By analyzing the mediation effect of procrastination, in the experimental data, Procrastination negatively affects experimental scores and creativity levels ($b = -5.046$, $p < 0.01$; $b = -0.78$, $p < 0.01$). In corporate data, procrastination negatively affects creativity levels ($b = -0.483$, $p < 0.01$).

In a joint regression of temporal leadership and procrastination on experimental scores and creativity levels. In the experimental data, the regression coefficient of temporal leadership on the experimental score and creativity level decreased significantly; In the enterprise questionnaire data, the regression coefficient of temporal leadership on the level of creativity decreased significantly. therefore, In the influence of time leadership on the experimental score and the level of creativity, procrastination played a mediating role, assuming H7 is verified.

This study explores the moderating effect of time pressure using hierarchical regression analysis. Analysis of experimental data shows that emotional regulation, self-efficacy, and procrastination have

a moderating effect on experimental scores and creativity. Results from corporate data indicate that emotion regulation, self-efficacy, and procrastination have a moderating effect on creativity. The stronger the time pressure, the stronger the effect of temporal leadership on emotional regulation. That is, with the same level of temporal leadership, the team with a high level of time pressure has a stronger ability to regulate emotions; The stronger the time pressure, the stronger the influence of temporal leadership on self-efficacy. That is, in a team with the same level of temporal leadership, the higher the level of time pressure, the stronger the sense of self-efficacy; The stronger the time pressure, the stronger the effect of temporal leadership on the procrastination. That is, in a team with the same level of temporal leadership, The higher the level of time pressure, the less procrastination. In summary, under the condition of high time pressure, temporal leadership will more easily affect emotional regulation, self-efficacy and procrastination. Suppose H8, H9, and H10 are verified.

In order to more intuitively see the mode of action of the adjustment variables, we performed a slope analysis on the regression results. The results show that as temporal leadership increases, emotional regulation increases. And under the condition of high time pressure, the influence of temporal leadership on emotional regulation, self-efficacy and procrastination will be greater. This shows that when time pressure exists, emotional regulation and self-efficacy will show a positive side, and the degree of procrastination will also be significantly reduced.

5. Conclusion

The main research conclusion of this paper is that temporal leadership has a significant effect on emotional regulation, self-efficacy, and procrastination. Emotional regulation, self-efficacy, and procrastination also have significant effects on creativity. In influencing relationships, emotional regulation, self-efficacy, and procrastination all play a significant mediating role. There is also a significant positive correlation between temporal leadership and creativity. Teams with strong temporal leadership will have stronger creative thinking and higher levels of creativity. Temporal leadership has a significant positive correlation with emotional regulation and self-efficacy, and a significant negative correlation with procrastination. Teams with high temporal leadership have stronger emotional regulation, stronger self-efficacy, and lower levels of delay. That is to say, in this case, members can be passionate and reasonable to control time and adjust emotions. Logical and creative thinking is especially important when achieving mission goals. For different teams, there will be differences in emotional regulation ability, the strength of self-efficacy, and the level of procrastination. The existence of temporal leadership can significantly increase the positive impact of emotional regulation and self-efficacy on the level of creativity, and reduce the negative impact of procrastination on creativity.

At the same time, the influence of temporal leadership on the level of creativity is also disturbed by many factors, It may be individual factors or external environmental factors. This paper validates the mediating effects of emotion regulation, self-efficacy, and procrastination in a research model. At the same time, the regulating effect of time pressure was also verified. Time pressure has a positive regulating effect on temporal leadership and emotional regulation, self-efficacy and procrastination. The stronger the time pressure, the greater the influence of temporal leadership on emotional regulation, self-efficacy and procrastination.

To sum up, in the work process, without the effect of time pressure adjustment, members will have a certain degree of delay in psychological and behavior, their ability to solve problems will not be better stimulated, and the sensitivity of emotional adjustment will not be so high. Therefore, in a task with high time pressure, the team needs to pay attention to the priority of the task and the important evaluation time node of the task, and try to choose a team with high temporal leadership to complete the task. Due to the limitation of practical factors, the experimental object of this study was selected as college students of the same university. Most of the corporate data sources were in the same province. Therefore, in the subsequent research, the sample scope should be enlarged as much as possible to enrich the sample source.

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