

# The Impact of Transformational Leadership on Organizational Health Based on Structural Equation Modeling

Yanan Wang<sup>1</sup>, Yiming Wang<sup>2</sup>

{wynaaaa@126.com<sup>1</sup>, 870349651@qq.com<sup>2</sup>}

School of Economics and Management, Hebei University of Science and Technology, Shijiazhuang, China

**Abstract.** This study takes domestic enterprises as the research object and empirically investigates the relationship between three variables: transformational leadership, organisational health and organisational identity using structural equation modelling. The results show that: transformational leadership has a significant positive effect on organisational identity; organisational identity and transformational leadership have a significant positive effect on organisational health; and organisational identity has a partially mediating role effect in the relationship between transformational leadership and organisational health.

**Keywords:** organisational health; transformational leadership; structural equation model

## 1 Introduction

Organisational health is the ability of an organisation to carry out normal business activities and to have sustained growth and long-term development. Early scholars believe that financial health is the most important goal to measure organisational health[1], some scholars have proposed that healthy organisations need to combine employee health and corporate profitability goals as much as possible, and increased the employee health indicators[2], and some scholars believe that corporate social responsibility should also be taken into account, employee health and corporate social benefit[3].

Organisational health is closely related to leaders, Bass suggested that 45-65% of organisational healthiness stems from leader behaviour[4]. Healthy leaders are the foundation for achieving employee health and organisational health[5]. Transformational leadership is more capable of positively influencing subordinates and suppressing negative employee emotions than other types of leadership styles, and can increase employee productivity and enhance employees' organisational identity.

Compared to the existing literature, the possible contributions and value of this study are: first, expanding the field of organisational health research, providing a theoretical basis for continuing in-depth research on the role mechanism of transformational leadership and the influencing factors of organisational health. Secondly, the mediating variable of organisational identity is introduced, and verifies the mediating role of organisational identity between transformational

leadership and organisational health. Thirdly, the findings contribute to improved leader behavior improvement and corporate organizational health.

## **2 Theoretical Foundations and Research Hypotheses**

### **2.1 The relationship between transformational leadership and organisational health**

Transformational leadership is a kind of emotional leadership with unique charisma, which expresses recognition of subordinates, builds a beautiful organisational vision, improves employee motivation, increases organisational identity and satisfaction through a variety of ways, strengthens the connection between leaders, employees and the organisational environment, and enables employees to give full play to their abilities, and ultimately achieves organisational goals[7].

According to the social exchange theory, transformational leaders, through vision motivation, personalised care and other aspects, allow employees to perceive the leader's efforts, their own work commitment, work performance as an exchange for the leader's care and attention, so as to have a positive impact on the effectiveness of the work and improve work performance, productivity and profitability [6], which helps enterprises to maintain long-term sustainable and stable development, and effectively enhance the economic efficiency of enterprises. Based on this, this study proposes the hypothesis:

H1a: Transformational leadership behaviours can have a positive impact on corporate performance.

According to the social information processing theory, employees in an organisation are influenced by the organisational climate and leader's behaviours and adjust their psychological and behavioural states [8]. Transformational leaders have the characteristics of enhancing the link between leadership, employees and the organisational environment, more pursuit of organisational goals and collective interests, with selfless dedication, honesty and integrity of the virtues of exemplary and dare to suffer, the courage to innovate leadership charisma will prompt employees to pay more attention to and pay attention to the degree of implementation of social responsibility within the enterprise, so as to reduce the emergence of product or service quality problems in the enterprise through the adjustment and optimisation of the individual work behaviours of the staff, and to promote the implementation within the enterprise. This will reduce product or service quality problems in the enterprise through the adjustment and optimisation of employees' personal work behaviour, promote the fulfilment of the enterprise's social responsibility and improve the enterprise's social benefits. Based on this, this study proposes the following hypotheses:

H1b: Transformational leadership behaviour will have a positive impact on corporate social benefits.

Relevant studies have found that transformational leadership behaviours have a positive impact on employees' mental health by influencing their work emotions, and transformational leaders usually have strong positive and positive emotions[9], which, by showing employees' respect, trust, and personalised care, stimulating positive emotions in employees can lead to reduced stress, enhanced well-being, and help to improve employees' psychological and physical health.

Therefore, this study proposes the hypothesis:

H1c: Transformational leadership behaviours have a positive impact on employee health in companies.

H1: Transformational leadership behaviours have a positive impact on organisational health in a firm.

## **2.2 The mediating role of organisational identity**

In the study of positive organisational behaviour, some scholars have proposed that employees' emotions and attitudes as well as personal behaviours have a significant impact on the organisation, and that employee organisational identity, which is generated by the influence of employees' emotions and attitudes, can be changed through the employees' behaviour and thus affect the organisation internally. Individuals with high levels of organisational identity increase job satisfaction, reduce feelings of depletion and have fewer health problems[10]; organisational identity affects employee engagement, productivity, etc., which in turn has an impact on a firm's financial performance; employees with high levels of organisational identity are more likely to increase work efficiency and reduce turnover, thus positively affecting organisational performance [11]. Related studies have proposed that employees with strong organisational identification tend to have higher levels of work dedication and commitment [12], and that increased employee focus and commitment can help firms to reduce the occurrence of product or service quality problems, thereby increasing the social benefits of the firm. Therefore, the following hypotheses are proposed in this study:

H2: Employees' organisational identification has a positive impact on organisational health.

H2a: Employees' organisational identity has a positive impact on organisational performance.

H2b: Employee's organisational identity has a positive impact on corporate social performance.

H2c: Employee's organisational identity has a positive effect on employee's health.

Leadership behaviours may affect employees' organisational identity, leader's care and trust creates a sense of self-importance [13], and organisational identity occurs when employees perceive that they are valued and respected by the organisation[14]. According to social exchange theory, transformational leaders provide visionary motivation and personalised care to their employees, which influences employees' attitudes to work, motivates employees to increase their motivation and initiative, creates a stronger sense of responsibility[15], makes employees willing to work harder at their jobs[16], and increase employee identification and satisfaction [17].

Therefore, this study proposes the hypothesis:

H3: Transformational leadership has a positive effect on employees' organisational identity.

Transformational leaders motivate employees to work more actively by demonstrating personal leadership charisma and communicating organisational vision and organisational goals to employees. The leader's trust and support make employees believe that they are respected and valued in the organisation, stimulate employees to work more and have a sense of responsibility, can enhance employees' sense of organisational identity, thus eliminating the self-concept, reducing the calculation of personal gains and losses, and are more willing to work for the

organisational goals[18], and the employees actively engaged in organisational work can enhance the economic and social benefits of the organisation, thus contributing to the achievement of organisational health.

H4: Organisational identity mediates the relationship between transformational leadership and organisational health

### 3 Research Methods

This study mainly applies SPSS and AMOS for data analysis, analyses the reliability and validity of the questionnaire based on the results of the reliability and validity test, conducts a validation factor analysis of the variables, and determines the path coefficients of the variable relationships through the structural equation modelling path analysis for the hypothesis test and mediation effect test.

### 4 Data Analysis and Results

#### 4.1 Reliability and validity test

**Table 1.** shows that the Cronbach's  $\alpha$  values for all variables or dimensions are greater than 0.8 and the scales all have good reliability.

**Table 1.** Cronbach's  $\alpha$  value of each variable.

| Variable                     | Cronbach's $\alpha$ |
|------------------------------|---------------------|
| Enterprise performance       | 0.926               |
| Employee health              | 0.877               |
| Corporate social performance | 0.93                |
| Organisational health        | <b>0.965</b>        |
| Organisational identity      | <b>0.925</b>        |
| Moral Exemplar               | 0.913               |
| Vision Motivation            | 0.901               |
| Leadership Charisma          | 0.880               |
| Personalised Care            | 0.903               |
| Transformational leadership  | <b>0.970</b>        |

The results of the validated factor analysis are shown in **Table 2**, which shows that the scales all have good construct validity.

**Table 2.** Values of the fitted indicators for the validated factor analysis of each variable.

| Fit Indicator | Organisational Health | Organisational Identity | Transformational Leadership |
|---------------|-----------------------|-------------------------|-----------------------------|
| $\chi^2$      | 347.844               | 20.429                  | 449.429                     |
| $\chi^2$ /df  | 2.083                 | 1.459                   | 2.707                       |
| RMR           | 0.042                 | 0.024                   | 0.044                       |
| RMSEA         | 0.059                 | 0.039                   | 0.074                       |
| TLI           | 0.956                 | 0.993                   | 0.938                       |
| CFI           | 0.961                 | 0.996                   | 0.946                       |
| IFI           | 0.962                 | 0.996                   | 0.946                       |
| NFI           | 0.929                 | 0.986                   | 0.917                       |

## 4.2 Correlation analysis

Exploratory analysis of the correlation between multiple variables through Pearson correlation analysis, it can be known that there is a significant correlation between the variables in this analysis, and all are significant at the 99% significance level, the correlation coefficients  $r$  are greater than 0, and the relationship between each variable is a significant positive correlation.

## 4.3 Hypothesis testing

### 4.3.1 Path analysis between variables

Firstly, in order to test the relationship between transformational leadership and the impact of organisational identity and organisational health, structural equation modelling was fitted with an indicator of:  $\chi^2=1805.187$ ,  $\chi^2/df=1.765$ ,  $RMR=0.045$ ,  $RMSEA=0.050$ ,  $TLI=0.935$ ,  $CFI=0.938$ ,  $IFI=0.938$ . All the fitted indicators have reached the standard value, which indicates that the model fitting effect is ideal. The path coefficients of each path are calculated as in **Table 3**. The Critical Ratio C.R. value of Transformational Leadership  $\rightarrow$  Employee Health is -0.099, and the P-value of 0.921 does not pass the test of significance, which indicates that the direct effect of Transformational Leadership on the health of employees is not significant. The rest of the paths C.R. values are greater than 1.96,  $P<0.001$ , passed the significance test.

**Table 3.** SEM path relationship test results

| Path  | Standardised path coefficients | Standard Error | Critical Ratio | Significance | Hypothesis |
|---|--------------------------------|----------------|----------------|--------------|------------|
| Organisational identity < Transformational leadership   | 0.925                          | 0.058          | 16.198         | ***          | H3         |
| Corporate Performance < Transformational Leadership     | 0.346                          | 0.09           | 3.626          | ***          | H1a        |
| Corporate Performance < Organisational Identity         | 0.607                          | 0.093          | 6.091          | ***          | H2a        |
| Employee Health < Organisational Identity               | 0.927                          | 0.116          | 6.974          | ***          | H2c        |
| Corporate Social Benefits < Organisational Identity     | 0.637                          | 0.096          | 6.377          | ***          | H2b        |
| Employee Health < Transformational Leadership           | -0.012                         | 0.107          | -0.099         | 0.921        | H1c        |
| Corporate Social Benefits < Transformational Leadership | 0.316                          | 0.093          | 3.327          | ***          | H1b        |

The path analysis of the impact of transformational leadership on the three dimensions of organisational health is shown in **Figure 1**.

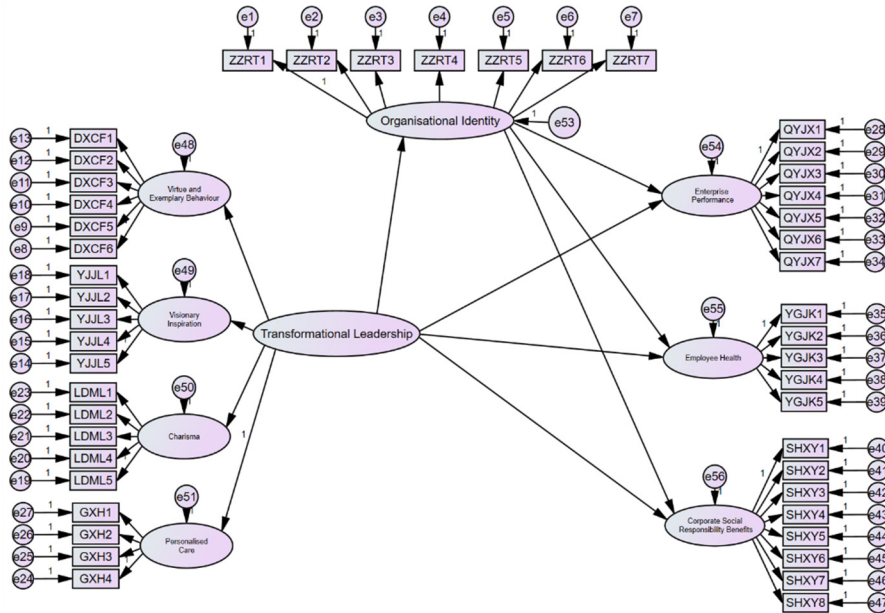


Fig.1. path analysis diagram

### 4.3.2 Test of mediating effects

Establishing a structural equation model. the model fit indicators of organisational identity mediating the role between transformational leadership and organisational health are:  $\chi^2=1783.251$ ,  $\chi^2/df=1.741$ ,  $RMR=0.044$ ,  $RMSEA=0.049$ ,  $TLI=0.937$ ,  $CFI=0.940$ , and  $IFI=0.940$ , and each fitted indicator reached the standard value. The mediating structural equation model of organisational identity is shown in **Figure 2**.

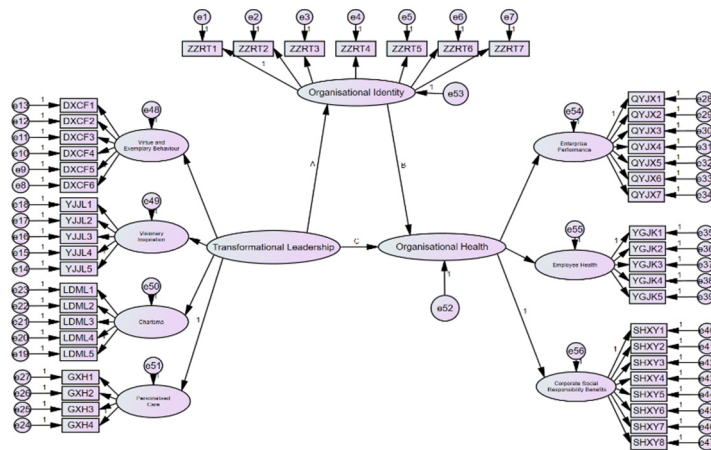


Fig.2. Analysis of mediating structural equation model of organisational identity

Bootstrap method was used to test the mediating effect of organisational identity. According to **table 4**, the path coefficient of the effect of transformational leadership on organisational identity is 0.92 (P=0.000), which verifies hypothesis H3; the path coefficient of the effect of transformational leadership on organisational health is 0.42 (P=0.000), which verifies hypothesis H1; and the path coefficient of the effect of organisational identity on organisational health is 0.57 (P=0.000), which verifies hypothesis H2.

**Table 4.** Results of path relationship test for structural equation modelling

| Path  | Standardised path coefficients | Standard Error | Critical Ratio | Significance | Hypothesis |
|---|--------------------------------|----------------|----------------|--------------|------------|
| Organisational identity - Transformational leadership | 0.92                           | 0.058          | 16.121         | ***          | H3         |
| Organisational health - Transformational leadership   | 0.417                          | 0.076          | 5.115          | ***          | H1         |
| Organisational health - Organisational identity       | 0.569                          | 0.079          | 6.673          | ***          | H2         |

**Table 5.** Results of Bootstarp mediation effect test

| Correlation of effects | Estimate | Bias Corrected (95%) |       |       | Percentile (95%) |       |       | Percentage of effect |
|------------------------|----------|----------------------|-------|-------|------------------|-------|-------|----------------------|
|                        |          | Lower                | Upper | P     | Lower            | Upper | P     |                      |
| Indirect effect        | 0.49     | 0.497                | 0.515 | 0.000 | 0.232            | 0.714 | 0.001 | 55.75%               |
| Direct effect          | 0.39     | 0.368                | 0.386 | 0.007 | 0.125            | 0.686 | 0.004 | 44.37%               |
| Total effect           | 0.879    | 0.875                | 0.881 | 0.000 | 0.775            | 0.985 | 0.001 | 100%                 |

According to **table 5**, the indirect effect holds true and that organisational identity plays a significant mediating role in the model and hypothesis H4 is supported. And the direct effect of transformational leadership on organisational health is significant, and hypothesis H1 is supported. In summary, organisational identity plays a partial mediating role in the relationship between transformational leadership and organisational health.

## 5 Conclusion

Transformational leadership has a significant positive effect on organisational health, in which transformational leadership has a significant positive effect on corporate performance and corporate social benefits, but no significant direct effect on employee health. However, transformational leadership does not have a significant impact on employee health, hypothesis H1c is not supported, may be due to the transformational leadership of the vision of the employees to motivate employees to enhance the degree of commitment to work, increase working hours, high commitment to work will affect the health of employees, so that employees have psychological and physical health problems. It can be seen that the positive effect of transformational leadership on organisational health is influenced by the impact of transformational leadership on corporate performance and corporate social benefits.

Organisational identity has a significant positive impact on three dimensions of organisational health: corporate performance, employee health and corporate social benefits. Among them, the effect of organisational identity on employee health is more significant, probably due to the fact that the influence of organisational identity on employees' emotions and attitudes directly affects their psychological and physical health.

Organisational identity plays a partial mediating role in the effect of transformational leadership on organisational health. The underlying mechanism lies in the fact that transformational leadership's trust and support for employees can stimulate employees' sense of dependence and satisfaction with the organisation, thus generating a sense of organisational identity, and a high sense of organisational identity can stimulate employees' motivation and make them willing to work hard for the organisation, which helps to achieve organisational health.

## References

- [1] Clark J V. A healthy organization. *California Management Review*,1982, 4(4): 16-31
- [2] Cary L. Cooper, Sue Cartwright. Stress-management interventions in the workplace: Stress counselling and stress audits[J]. *British Journal of Guidance & Counselling*,1994,22(1).
- [3] Gerard Zwetsloot, Frank Pot. The Business Value of Health Management[J]. *Journal of Business Ethics*,2004,55(2).
- [4] Bass B M. *Leadership and Performance Beyond Expectations*[M].New York: Free Press,1985.
- [5] Quick J C, Macik-Frey M, Cooper G. Managerial dimensions of organizational health: the healthy leader at work. *Journal of Management Studies*, 2007,44(2): 189~205
- [6] Kessler R. C., Stang, P. E. *Health& work productivity* [M]. Chicago: University of Chicago Press, 2006.
- [7] Yukl. *Leadership in Organizations*. Englewood Cliffs [M] .NJ: Prentice-Hall,1994.
- [8] Ziv Yair,Hadad Bat Sheva. Understanding the mental roots of social perceptions and behaviors: An integrated information-processing perspective[J]. *Heliyon*,2021,7(2).
- [9] Susanne Tafvelin,Kerstin Armelius,Kristina Westerberg. Toward Understanding the Direct and Indirect Effects of Transformational Leadership on Well-Being[J]. *Journal of Leadership & Organizational Studies*,2011,18(4).
- [10] Michael Riketta,Rolf Van Dick. Foci of attachment in organizations: A meta-analytic comparison of the strength and correlates of workgroup versus organizational identification and commitment[J]. *Journal of Vocational Behavior*,2004,67(3).
- [11] CARMELI ABRAHAM,COHEN MEITAR RAVIT,ELIZUR DOV. The Role of Job Challenge and Organizational Identification in Enhancing Creative Behavior among Employees in the Workplace[J]. *The Journal of Creative Behavior*,2007,41(2).
- [12] Michael Riketta,Rolf Van Dick. Foci of attachment in organizations: A meta-analytic comparison of the strength and correlates of workgroup versus organizational identification and commitment[J]. *Journal of Vocational Behavior*,2004,67(3).
- [13] De Cremer D. The neural substrate of social power[J]. *Frontiers in Human Neuroscience*,2008,2.
- [14] Barbara van Knippenberg,Linda Martin,Tom Tyler. Process-Oriented versus Outcome-Oriented during Organizational Change: The Role of Organizational Identification[J]. *Journal of Organizational Behavior*,2006,27(6).
- [15] Yukl. *Leadership in Organizations*. Englewood Cliffs [M] .NJ: Prentice-Hall,1994.



- [16] Leithwood K. The Move Toward Transformational Leadership [ J ] .Educational Leadership,1992.49(05).
- [17] Ackoff,LR.A systemic view of transformational leadership [ J ] .Strategy and Leadership,2007(34)
- [18] Michael A. Hogg,Deborah J. Terry. Social Identity and Self-Categorization Processes in Organizational Contexts[J]. The Academy of Management Review,2000,25(1).