

Transformational Leadership Factor Affecting Teachers' Job Satisfaction of High School in Tieling City under Liaoning Province

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ABSTRACT

The objectives of this research were: (1) To explore the factors and indicators of transformational leadership and teachers' job satisfaction of high school in Tieling City under Liaoning Province. (2) To examine factors of transformational leadership affecting teachers' job satisfaction of high school in Tieling City under Liaoning Province. (3) To propose the guidelines for improving transformational leadership of high school administrators in Tieling City under Liaoning Province.

This research was a mixed method research, including quantitative research and qualitative research. The population consisted of 3645 high school teachers of 16 high schools in Tieling City under Liaoning Province. The sample size was determined by Yamane formulate that obtained through random sampling technique. There were 360 high school teachers as the sample in total. The instrument used for collecting data was a five-point rating scale questionnaire. Descriptive statistics, Confirmatory Factor Analysis and Multiple regression analysis were used to perform data analysis using statistical software.

The results showed that; 1) There were 4 factors of transformational leadership of high school: moral model, build a vision, leadership charisma and Individualized care, 61 indicators and 4 factors of teachers' job satisfaction of high school: work itself, interpersonal relationship, school management, income and welfare and 26 indicators in this. 2) Factors of transformational leadership affecting on teachers' job satisfaction: the results showed that the correlation coefficient of moral model, build a vision, leadership charisma, Individualized care,

transformational leadership and teachers' job satisfaction were 0.542,0.550,0.711,0.517 and 0.776 respectively, and the corresponding P values are less than 0. 01, has statistical significance, moral model, build a vision, leadership charisma and Individualized care and teachers 'job satisfaction have significant positive correlation, transformational leadership is higher, teachers' job satisfaction is higher. 3) There were 18 guidelines for improving transformational leadership of high school principals in Tieling City, Liaoning Province, including 4 guidelines of strengthening moral model, 2 guidelines of leadership charisma, 6 guidelines of enhancing individualized care, and 5 guidelines of build a vision motivation.

Keywords: transformational leadership, teachers' job satisfaction, high school in Tieling City

1. Introduction

The 21st century is a century of reform, a century of competition, and a century of rapid development. Especially after the outbreak of COVID-19, the educational model has changed dramatically, and the leaders of the educational system face great challenges. With the changes of the times, economy and the educational system, the leadership style of high school has become to a diversified leadership style. School leaders break the traditional bureaucratic style, adopt the combination of incentive and humanized leadership to constantly promote reform and development of school. Therefore, this study takes cities in northern China as an example to explore the impact of transformational leadership on teachers' job satisfaction from the perspective of teachers, so as to explore the factors that improve the transformational leadership of administrators. (Zhu Wenhui, Jin Yule, 2014)

In this context, it becomes important for administrators to enhance transformational leadership. This research explores the working guidelines for improving transformational leadership of administrators through the survey of teachers' job satisfaction.

2. Research objectives

2.1 To explore the factors and indicators of transformational leadership and teachers' job satisfaction of high school in Tieling City, Liaoning Province, People's Republic of China.

2.2 To examine the factors of transformational leadership affecting the teachers' satisfaction of high school in Tieling City, Liaoning province, People's Republic of China.

2.3 To propose the guidelines for improving the transformational leadership of high school administrators in Tieling City, Liaoning province, People's Republic of China.

3. Hypothesis

- 3.1 Leadership Charisma has a positive direct effect on teachers' job satisfaction.
- 3.2 Moral Model has a positive direct effect on teachers' job satisfaction.
- 3.3 Build a Vision has a positive direct effect on teachers' job satisfaction.
- 3.4 Individualized Care has a positive direct effect on teachers' job satisfaction.

4. Research Methodology

4.1 Research on Design

This dissertation mainly adopts the mixed research methods of quantitative research and qualitative research. Phase 1 is Qualitative research: The researchers studied the concepts, principles and theories of the components of transformational leadership and teachers' job satisfaction, and conducted semi-structure interviews with 7 relevant experts. Phase 2 is quantitative research. Researchers select affective variables that affect teachers' job satisfaction from step (1) and compile questionnaires to prove the relationship between transformational leadership factors and teachers' job satisfaction. And then use the IOC method to text the questions in questionnaire. A original sample test is carried out that we call it try out with 30 questionnaire. The relationship will be certified by CFA and multivariate regression analysis. Phase 3 is the qualitative research. Using focus group discussion with 10 experts to verify the new guidelines for improving the transformational leadership of high school administrators.

4.2 Key informants / Population and Sample

The key informants of phase 1 consist of 7 experts who are the Educational Bureau, the deputy directors, the dean of the graduate school, the dean of the higher vocational college and the educational experts. For the phase 2, the population of this research are 3645 high school teachers of 16 high schools in Tieling City, Liaoning Provinc. In this study, 360 teachers as the sample that selected by Yamane formula from 3645 high school teachers. The key informants of phase 3 are about 10 experts to do the focus group discussion to propose the guidelines for improving the transformational leadership of high school administrators in Tieling City, Liaoning province, People's Republic of China.

4.3 Research Instruments

Phase1: The research instruments of this phase are data record sheets, and semi-structured interview forms. **Phase 2:** The questionnaire as the instrument for this phase consists of three parts. Part 1 are the questions about basic information of the respondents,

the part 2 is the 5 points rating scale questionnaire to examine the factors of transformational leadership affecting teachers' job satisfaction, part 3 is about the open questions that able to achieve the information of guidelines. **Phase 3:** To propose the guideline for improving the transformational leadership of high school administrators in Tieling City in Liaoning Province using focus group discussion and make conclusion to be the guidelines. The instrument used in this phase was interview form.

5.4 Data Collection

Phase 1: Data collection through 22 documents and the semi-structure interview with 7 experts. **Phase 2:** The questionnaires were sent by online and researcher. Information on the factors was collected by answering the questionnaire of 360 high school teachers involved in the questionnaire. **Phase 3:** Collected the mainly guidelines information with 10 experts by focus group discussion.

5.5 Data Analysis

Phase 1: Content Analysis was used to explore the factors and indicators of transformational leadership and teachers' job satisfaction. **Phase 2:** Descriptive statistical and CFA were used to analyze variables. The relationship between transformational leadership and teachers' job satisfaction was analyzed by multiple regression analysis. The content analysis will be used to analysis the open questions to propose the guidelines. **Phase 3:** Content analysis was used to propose the guidelines after focus groups discussion meeting.

5. Research Results

5.1 Demographic Information

Descriptive statistical analysis results according general information of 318 high school teachers showed that: 1. There were 166 male teachers (52.2%) and 152 female teachers (47.8%) as the samples in this research. In terms of age, the number of people over 41 years old was the lowest, with 21 (6.6%). 26 (8.2%) were aged 36 to 40; 48 people (15.1%) aged 31-35; The number of people aged 26 to 30 was 105 (33%); The largest number of people were under the age of 25, with 118 (37.1%). In terms of academic qualifications, 121 people (38.1%) with a bachelor's degree and 164 people (51.6%) with a master's degree do not have a doctor's degree. According to professional titles, 101 junior (31.8%); Intermediate (134942.1%); Advanced 83 (26.1). According to the teaching age, 90 students (28.3%) with 1-5 years; 80 (25.2%) aged 6-10 years; 74 (23.3) in years 11-15; 35 (11%) in 16-20 years; 26 (8.2%) aged 21-25; 10 people in 26-30 years (3.1%); Three people (0.9 percent) were over 30 years old.

5.2 Validity and reliability analysis of initial measurement

Using IOC to text the validity of questionnaires. 51 questions were selected through 87 questions. Questionnaire reliability refers to the degree to which a questionnaire produces consistent results when repeated. The researchers sent out 30 questionnaires to collect data from non-samples to test the reliability of the results. It is generally accepted that Cronbach's alpha coefficient equal to or greater than 0.80 indicates sufficient confidence to determine the internal consistency or average correlation of the items in the survey tool to measure the reliability of the questionnaire. In this survey, Cronbach's alpha coefficient of transformational leadership was 0.927, and that of teacher job satisfaction was 0.931 so it was determined that this questionnaire had good usability reliability.

5.3 Confirmatory factor analysis (CFA)

Through comprehensive analysis of KMO value, variance interpretation rate, factor load coefficient, etc., the validity level of the data is verified. Among them, the KMO value is used to evaluate the validity of the data, and the variance interpretation rate value is used to explain the content validity level. The KMO value of teachers' job satisfaction was 0.910, the KMO value of transformational leadership was 0.926, indicating that the sample had good adaptability. Another test is Bartlett's test, which can be used to test the independence of variables and whether the correlation between variables is suitable for factor analysis to explain the level of structural validity. Therefore, the approximate card value tested by the Bartlett test is 4232.572 and 5258.343, with 190 and 325 degrees of freedom and a significance level of 0.000. This result shows that the correlation between the variables is significant.

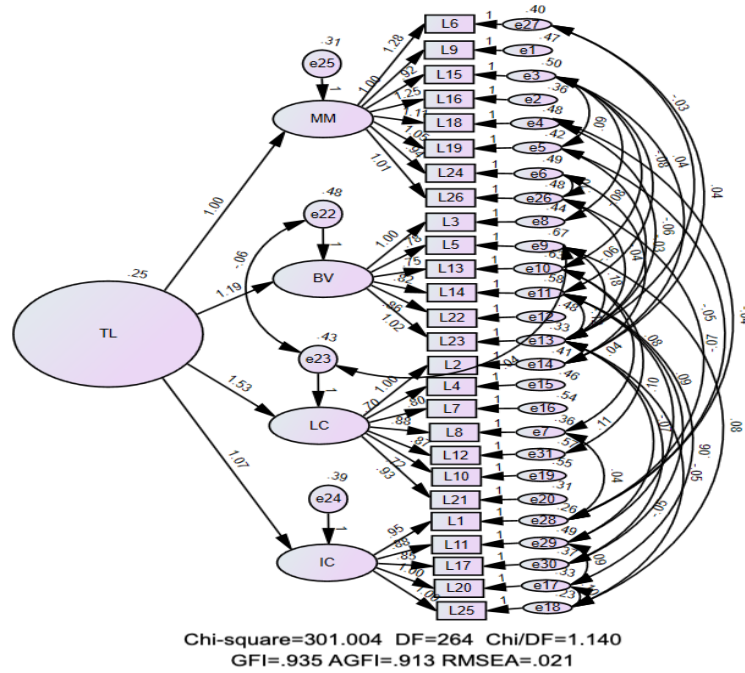


Table 1 the model of transformational leadership

According to the table, X^2 / df is 1.140, less than 3, GFI is 0.935, greater than 0.8, AGFI is 0.913, greater than 0.8, RMSEA is 0.021, less than 0.08, according to the standard of the model fitting index, the fitting index of the model meets the requirements, so the path of the model is analyzed.

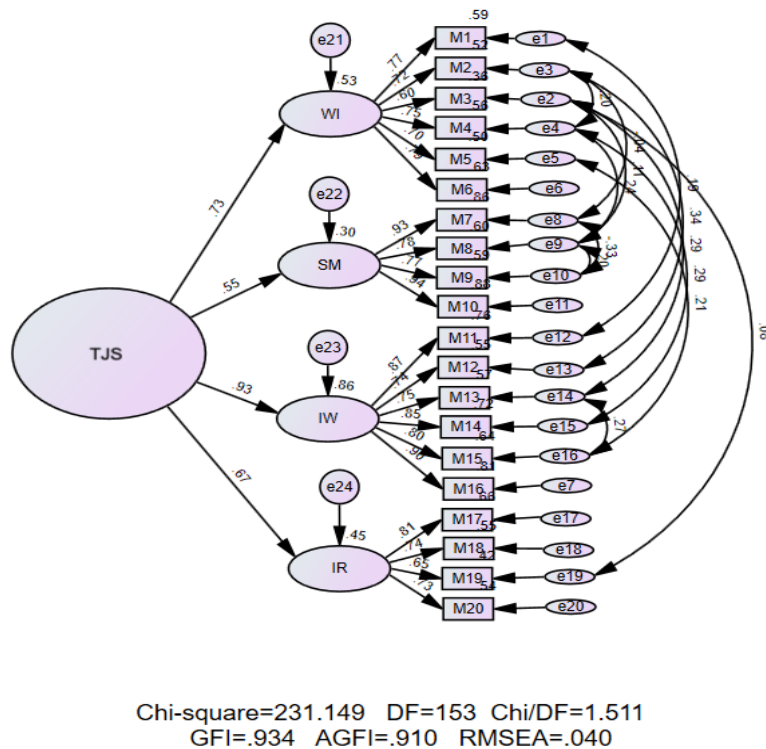


Table 2 the model of teachers' job satisfaction

According to the table, X^2 / df is 1.511, less than 3, GFI is 0.934, greater than 0.8, AGFI is 0.910, greater than 0.8, RMSEA is 0.040, less than 0.08, according to the standard of the model fitting index, the fitting index of the model meets the requirements, so the path of the model is analyzed.

5.4 Multiple regression analysis

5.4.1 Regression test of teachers' job satisfaction with transformational leadership

Table 3: Regression test of teacher job satisfaction with transformational leadership

Model	Unstandardized		Standardized		t	Sig.	Collinearity Statistics	
	Coefficients		Coefficients				Tolerance	VIF
	B	Std.Error	Beta					
(Constant)	-0.09	0.231		-0.39	0.697			
sex	-0.025	0.053	-0.017	-0.472	0.637	0.956	1.046	
age	0.021	0.022	0.034	0.938	0.349	0.953	1.049	
marriage	0.013	0.029	0.016	0.451	0.653	0.951	1.051	
record of formal schooling	0.096	0.038	0.090	2.498	0.013	0.966	1.036	
professional ranks and titles	0.055	0.035	0.057	1.569	0.118	0.936	1.068	
of school age	-0.015	0.018	-0.029	-0.810	0.419	0.971	1.030	
Teaching school	0.028	0.032	0.031	0.858	0.392	0.976	1.025	
	-0.005	0.039	-0.005	-0.133	0.894	0.977	1.023	
Transformational leadership	0.855	0.042	0.751	20.259	0.000	0.905	1.105	
R ²				0.617				
Adjusted R Square				0.606				
F				55.173***				

Dependent Variable: Teacher job satisfaction

Note: * indicates $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$,

As can be seen in the above table, the common linear statistics VIF (Variance Inflation Factor) in the model is less than 10, indicating that the degree of collinearity between independent variables is small and the model is reasonable. The regression model was constructed by using transformational leadership as the independent variable and teacher job

satisfaction as the dependent variable. The obtained square value of the model R was 0.617, and the fit degree was 61.7%, greater than 20%, indicating that the goodness of fit was good and could explain the change of teachers' job satisfaction to a certain extent. In the F test, an F value of 55.173 and a significance value of 0.000 < 0.05 were obtained, indicating that the model is valid.

The effect of transformational leadership on teachers' job satisfaction is mainly verified by establishing regression models. To improve the explanatory power of the model, demographic variables were introduced as control variables. The multiple regression model was established with gender, age, marriage, education, professional title, teaching age, teaching, school, and transformational leadership as independent variables, and the independent variable of teacher job satisfaction was 0.751 ($t=20.259$, $p < 0.001$), indicating that the independent variable transformational leadership has a significant positive effect on teachers' job satisfaction, so the hypothesis is true.

5.4.2 Regression test of teachers' job satisfaction in each factors of transformational leadership

Table 4 : Regression test of teacher job satisfaction in each factors of transformational leadership

Model	Unstandardized		Standardized		t	Sig.	Collinearity Statistics	
	Coefficients		Coefficients				Tolerance	VIF
	B	Std.Error	Beta					
(Constant)	0.078	0.225			0.345	0.730		
sex	-0.020	0.051	-0.014		-0.395	0.693	0.942	1.062
age	0.016	0.021	0.026		0.732	0.465	0.946	1.057
marriage	-0.007	0.028	-0.008		-0.237	0.813	0.926	1.080
record of formal schooling	0.094	0.037	0.088		2.544	0.011	0.965	1.036
professional ranks and titles	0.065	0.034	0.068		1.927	0.055	0.927	1.078
of school age	-0.019	0.017	-0.037		-1.060	0.290	0.967	1.034
Teaching school	0.025	0.031	0.028		0.805	0.421	0.964	1.037
	-0.006	0.038	-0.006		-0.163	0.871	0.966	1.035
Moral Model	0.138	0.036	0.160		3.862	0.000	0.672	1.489
Build a Vision	0.206	0.035	0.242		5.953	0.000	0.701	1.427

Model	Unstandardized		Standardized	t	Sig.	Collinearity Statistics	
	Coefficients		Coefficients			Tolerance	VIF
	B	Std.Error	Beta				
Leadership Charisma	0.375	0.036	0.457	10.491	0.000	0.610	1.640
Individualized Care	0.118	0.037	0.133	3.198	0.002	0.672	1.488
R ²				0.646			
Adjusted R Square				0.633			
F				46.469***			

Dependent Variable: Teacher job satisfaction

Note: * indicates $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$,

As can be seen in the above table, the common linear statistics VIF (Variance Inflation Factor) in the model is less than 10, indicating that the degree of collinearity between independent variables is small and the model is reasonable. The regression model was constructed by using each dimension of transformational leadership as the independent variable and teacher job satisfaction as the dependent variable. The square value of model R was 0.646, and the fit degree was 64.6%, more than 20%, indicating that the goodness of fit is good and can explain the change of teachers' job satisfaction to a certain extent. In the F test, an F value of 46.469 was obtained and a significance value of $0.000 < 0.05$, indicating that the model is valid.

The influence of each factor of transformational leadership on teachers' job satisfaction is mainly verified by establishing regression models. To improve the explanatory power of the model, demographic variables were introduced as control variables. The model takes gender, age, marriage, educational background, professional title, teaching age, teaching school, transformational leadership as the independent variables, and teachers' job satisfaction as the dependent variable to establish a multiple regression model. 1. The standardized regression coefficient of the independent variable moral model on teachers' job satisfaction in the model is 0.160 ($t=3.862$, $p < 0.001$), indicating that the independent variable moral model has a significant positive impact on teachers' job satisfaction, so the hypothesis is true. 2. The standardized regression coefficient of independent variable build a vision on teachers' job satisfaction in the model was 0.242 ($t=5.953$, $p < 0.001$), indicating that independent variable build a vision has a significant positive impact on teachers' job satisfaction, so the hypothesis is true. 3. The standardized regression coefficient of

independent variable Leadership charisma on teachers' job satisfaction in the model is 0.457 ($t=10.491$, $p < 0.001$), indicating that independent variable Leadership charisma has a significant positive impact on teachers' job satisfaction, so the hypothesis is true. 4. The standardized regression coefficient of independent variable Individualized care on teachers' job satisfaction in the model is 0.133 ($t=3.198$, $p < 0.01$), indicating that independent variable Individualized care has a significant positive impact on teachers' job satisfaction, so the hypothesis is true.

5.5 Research to find out the guidelines

Moral Model: 1. Set a good moral example. 2. Strengthen moral education.

3. Emphasize the sense of responsibility. 4. Advocate a culture of integrity.

Build a Vision: 1. Define and Share the vision. 2. Develop a strategy to achieve the vision. 3. Encourage participation and input. 4. Continuous communication.

5. Timely feedback and adjustment.

Leadership Charisma: 1. Develop good communication and listening skills.

2. Be positive and resilient.

Individualized care : 1. Know and Respect each employee. 2. Building trust relationships. 3. Provide development opportunities. 4. Encourage employees to express their opinions. 5. Establish a supportive work environment. 6. Encourage self-improvement.

6. Discussion

6.1 Discuss the factors and indicators of transformational leadership and teachers' job satisfaction

According to Burns' theory, transformational leadership should be composed of three factors: personal charm, intellectual motivation and personal consideration. In 1990, Podsakoff et al. summarized the previous studies and proposed that transformational leadership should include six factors, namely, promoting cooperation, personalized care, modeling, expressing vision, raising high expectations, and intelligent stimulation. In China, in 2005, Li Chaoping and Shi Kan research showed that transformational leadership is a four-factors structure, including vision motivation, leadership charisma, moral model and personalized care. Moreover, in their view, transformational leadership in China also includes a unique dimension: moral model, that is, leaders model themselves with good moral qualities and influence subordinates to strive for organizational goals.

Based on the two-factor theory of Herzberg (1957), teachers' job satisfaction has two dimensions, namely internal satisfaction and external satisfaction. Lu Jia and Shi Kan (2001)

put forward the structure of job satisfaction scale after in-depth interviews and case analysis of managers in different regions and industries of Chinese enterprises, including five aspects: satisfaction with corporate image (management system, customer service, quality management, participation in management); Leader's satisfaction (manager, job recognition); Satisfaction with the rewards of work (compensation, benefits, training and development, working environment); Satisfaction with work collaboration (colleagues, communication, respect); Satisfaction with the job itself (sense of competence, accomplishment, security). In the field of education in China, Chen Yunying and Sun Shaobang (1994) compiled a "Teacher job satisfaction Scale" consisting of 40 items after several tests and revisions. He divided teacher job satisfaction into six dimensions: job nature, physical conditions, salary, further study and promotion, interpersonal relationship and leadership and management. Feng Bolin (1996) compiled the teacher's job satisfaction scale and believed that the teacher's job satisfaction was composed of five factors, namely, self-actualization, work intensity, salary income, leadership relationship and colleague relationship. Due to the particularity of teachers' work, the structure of their job satisfaction may be different from that of other organizational employees.

6.2 Discuss the relationship between transformational leadership and teachers' job satisfaction

In 2012, Liu Chao and Xia Ni proposed in their paper Research on the Mediating Variables of the Correlation between transformational Leadership and Job Satisfaction that transformational leadership style significantly affects employees' job satisfaction, but they are not necessarily and directly related all the time, and mediating variables such as efficacy, psychological empowerment, trust and job characteristics can all have an important impact. Thus, it can have a positive impact on employees' psychology or attitude and improve their job satisfaction. In 2004, Judge, T.A. And Piccolo, R.F. a meta-analysis was used to conduct a detailed analysis of nearly 90 samples of transformational leadership over the previous 8 years. The analysis shows that transformational leadership has a significant positive correlation with employees' work attitude, motivation and job satisfaction. Fred, W.O. And Lawler, J.J. The results of two efficacy surveys in 2004 and 2005 show that transformational leadership has a positive effect on the development of the common vision of organization members, the evaluation of superiors and job satisfaction. Kuei-Mei Cheng(2003) investigated employees of Taiwan health club and explored the relationship among leadership behavior, organizational commitment and job satisfaction by establishing a relationship model. The results showed

that leadership behavior directly affected employees' job satisfaction. Nan-Fu Chen (2008) studied the relationship between leadership behavior, organizational commitment, job satisfaction and employees' turnover goals in sports departments of 36 universities in Taiwan, and the results showed that leadership behavior and job satisfaction had a significant positive relationship. Taking enterprise managers as research objects, Meng Hui (2003) compiled the "Transformational Leadership Questionnaire" to explore the relationship between leadership behavior, employees' job satisfaction and organizational commitment. The results show that transformational leadership can effectively predict employees' job satisfaction. Chinese scholar Li Chaoping et al. (2006) conducted a survey on 744 employees in 14 enterprises in China, and the results show that vision motivation and moral ethics have a significant impact on organizational commitment and employee job satisfaction, leadership charisma and personalized care have a significant impact on employee job satisfaction, and vision motivation and moral ethics affect employee satisfaction through work significance.

6.3 Discuss the guidelines for improving transformational leadership of high school administrators

Zhu Wenhui and Jin Yule (2014) believe that the theory of transformational leadership emphasizes that principals should shape the common vision of the school together with teachers in an open and innovative organizational atmosphere, encourage and inspire teachers' innovative thinking, and provide teachers with support in work and care in life. In addition, principals also need to pay attention to their own moral cultivation, and establish a harmonious interpersonal relationship with teachers. (1) The establishment of the common vision of the school under the "I with you" relationship. (2) The inspiration of teachers' mental model. (3) Teachers' personalized care. (4) The improvement of the principal's moral cultivation. (5) The construction of harmonious interpersonal relations.

Zhang Tao (2005) believes that while transformational leadership exerts great influence in the fields of politics and business administration, its influence in the field of education is very limited. However, this does not mean that this theory has no value in educational management. Through research, the following guidelines are given for the leadership of principals. (1) The principal shall shape a shared vision for the long-term development of the school. (2)The president should establish his own power and leadership charm. (3) Principals should strengthen their encouragement and care for teachers.

7. Recommendations

7.1 Recommendation for Policies Formulation

1. Through this study, the Education Bureau of Tieling City can plan and cultivate the leadership ability of high school principals according to the guidelines for improving transformational leadership and influencing teachers' Job satisfaction of high school principals in Tieling City. Professional managers who empower managers with transformational leadership.

2. The Senior high School Management Office of the Ministry of Education will take the research results of "Guide to Influence Teachers' Job Satisfaction by Transformational Leadership Factors of High School Principals in Tieling City" as a guideline for principals and a policy to cultivate school administrators' awareness and recognition of their own leadership value.

3. The Guide on the Influence of Transformational Leadership Factors on Teachers' Job Satisfaction of High School Principals in Tieling City, prepared as the result of this study, provides a detailed explanation and direction for the management ability training of high school principals.

7.2 Recommendation for practical application

1. Implement democratic management, cultivate teachers' sense of ownership, and encourage teachers to participate in administration.

2. Promote teachers' professional growth, and enhance teachers' identification with the school and their willingness to work hard.

3. Construction of school organizational culture to achieve the unity of values of the school and teachers.

7.3 Recommendation for further research

1. Do multi-dimensional research. Each item of the two variables, transformational leadership and teacher job satisfaction, was answered by teachers, which may lead to homologous variance in the collected data. Although some studies have shown that homologous variance is not sufficient to invalidate the conclusions of the study, the researchers believe that it is necessary to use different data sources for different variables in future studies to overcome the problems that may be brought about by homologous variance.

2. Avoid Cross sectional study design. Transformational leadership style affects teachers' job satisfaction level, and this process has a certain effect time. In principle, these two variables should be measured in different time periods. However, the questionnaire in

this study measured the two variables at the same time, which makes this study unable to assert that there is a causal relationship between transformational leadership and teachers' job satisfaction. Although the results of this study are consistent with the theoretical basis, the cross-sectional design prevents the study from completely excluding other possible explanations. Therefore, it is necessary to make use of longitudinal design (Longitude) or experimental methods in future studies to further explore the causal relationship between various variables.

3. Further expand the scope of research. Due to the limitations of time and energy, this study only takes high school teachers in Tieling City, Liaoning Province as the research object, and cannot be popularized to a larger scope. In future related studies, the scope of sampling should be further expanded.

4. Enrich the connotation of teachers' work performance. Such as increasing teacher organizational commitment, teacher job involvement, teacher organizational citizenship behavior and other variables, to explore and test the theoretical logic and relationship between transformational leadership and teacher performance. Although foreign countries have begun to carry out such research, but China's research on these aspects is very little.

5. Introduce mediating variables. Avolto etc. (2004) with a large public hospitals in Singapore 520 nurses as the research sample, examines the psychological authorization in the relation between transformational leadership and employee commitment to the intermediary role, they use HLM (Hierarchical Linear Modelling), The results show that psychological empowerment plays an intermediary role in the relationship between transformational leadership style and employee commitment. Future studies should be verified in educational organizations, and trust, reciprocity and other mediating variables can also be selected to study the mechanism of transformational leadership on teachers' job satisfaction. Therefore, future research needs to further explore the process of the effect of transformational leadership on teachers' work attitude or performance from the perspective of psychological variables.

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