

อิทธิพลตัวแปรคั่นกลางของความผูกพันและแรงจูงใจในการทำงานของครู ที่ส่งผลต่อความสัมพันธ์ระหว่างภาวะผู้นำการเปลี่ยนแปลงและความพึงพอใจ

ในการทำงานของครูในโรงเรียนอนุบาล จังหวัดชานตง

MEDIATION EFFECT OF TEACHER'S COMMITMENT AND WORK MOTIVATION ON RELATIONSHIP
BETWEEN TRANSFORMATIONAL LEADERSHIP AND JOB SATISFACTION OF TEACHERS IN PUBLIC
KINDERGARTEN UNDER SHANDONG PROVINCE

วัน ปิน¹, ผศ. ดร.สถาพร พุทธิกุล² และอาจารย์ ดร.สุขุม มูลเมือง³;
สาขาภาวะผู้นำทางการบริหารการศึกษา มหาวิทยาลัยกรุงเทพธนบุรี^{1,2}

คณะศึกษาศาสตร์ มหาวิทยาลัยกรุงเทพธนบุรี³

Wan Pin¹, Asst Prof. Dr. Sataporn Pruettikul² and Dr. Sukhum Moonmuang³

¹Student of Leadership in Education Administration program, Bangkokthonburi University^{1,2}

Faculty of Education, Bangkokthonburi University³.

262654574 @qq.com, Pruettikul20@gmail.com , Sukhum.moo@BKKthon.ac.th

(Received : February 7, 2026; Edit : February 22, 2026; accepted : February 26, 2026)

บทคัดย่อ

การวิจัยนี้มีวัตถุประสงค์เพื่อ (1) ศึกษาองค์ประกอบของภาวะผู้นำการเปลี่ยนแปลง แรงจูงใจในการทำงาน ความผูกพันในการทำงาน และความพึงพอใจในงานของครูในโรงเรียนอนุบาลของรัฐบาลในจังหวัดชานตง (2) พัฒนาแบบจำลองตัวแปรคั่นกลางความผูกพันและแรงจูงใจในการทำงานของครูที่ส่งผลต่อความสัมพันธ์ระหว่างภาวะผู้นำการเปลี่ยนแปลงและความพึงพอใจในงานของครูในโรงเรียนอนุบาลของรัฐบาลในจังหวัดชานตง และ (3) วิเคราะห์ผลกระทบทางตรงและทางอ้อมของภาวะผู้นำการเปลี่ยนแปลงต่อความพึงพอใจในงานของครูในโรงเรียนอนุบาลของรัฐบาลในจังหวัดชานตง สาธารณรัฐประชาชนจีน การวิจัยนี้ ประชากรเป็นครูในโรงเรียนอนุบาลของรัฐบาลในจังหวัดชานตง จำนวน 183,000 คน กำหนดกลุ่มตัวอย่างในการวิจัยโดยใช้โปรแกรม G*Power จำนวน 423 คน และใช้วิธีการสุ่มแบบหลายขั้นตอนและการแบ่งชั้นภูมิ เครื่องมือที่ใช้ในการรวบรวมข้อมูลเป็นแบบสอบถามมาตราส่วนประมาณค่า 5 ระดับ สถิติในการวิเคราะห์ข้อมูลประกอบด้วย สถิติเชิงพรรณนา การวิเคราะห์องค์ประกอบเชิงยืนยันและการวิเคราะห์สมการเชิงโครงสร้าง

ผลการวิจัยพบว่า (1) องค์ประกอบของภาวะผู้นำการเปลี่ยนแปลง มี 4 องค์ประกอบ ดังนี้ วิสัยทัศน์ การเป็นแบบอย่างทางศีลธรรม การกระตุ้นทางสติปัญญา และการดูแลรักษาบุคลากร ความพึงพอใจในงาน มี 5 องค์ประกอบ ดังนี้ ลักษณะงานที่ทำให้สภาพแวดล้อม เงินเดือนและสวัสดิการ ความสัมพันธ์ส่วนบุคคลและการได้รับการส่งเสริมพัฒนา แรงจูงใจในการทำงาน มี 2 องค์ประกอบ ดังนี้ แรงจูงใจภายนอกและแรงจูงใจภายใน และความผูกพันในการทำงาน มี 2 องค์ประกอบ ดังนี้ ความสามารถในการควบคุมตนเอง ความยืดหยุ่น และความคาดหวัง (2) แบบจำลองตัวแปรคั่นกลางความผูกพันและแรงจูงใจในการทำงานที่ส่งผลต่อความสัมพันธ์ระหว่างภาวะผู้นำการเปลี่ยนแปลงและความพึงพอใจในงานของครูในโรงเรียนอนุบาลของรัฐบาลในจังหวัดชานตง สอดคล้องกับข้อมูลเชิงประจักษ์ (Chi-square = 189.416, df = 57, CMIN/DF = 3.323, CFI = 0.947, TLI = 0.927, SRMR = 0.060, RMSEA = 0.075) และ (3) ภาวะผู้นำการเปลี่ยนแปลงส่งผลทางตรงเชิงบวกต่อความพึงพอใจในงาน ความผูกพัน และแรงจูงใจในการทำงานของครู โดยมีค่าอิทธิพลทางตรง คิดเป็น 0.344, 0.675 และ 0.347 ตามลำดับ แรงจูงใจในการทำงานส่งผลทางตรงเชิงบวก (0.469) ต่อความพึงพอใจในงานของครู อย่างมีนัยสำคัญทางสถิติ ($p < .01$) นอกจากนี้พบว่าภาวะผู้นำการเปลี่ยนแปลงส่งผลทางอ้อมต่อความพึงพอใจในงานของครูผ่านแรงจูงใจ และผ่านทั้งความผูกพันและแรงจูงใจในการทำงานของครู โดยค่าอิทธิพลทางอ้อมรวม เท่ากับ 0.355 แต่ความผูกพันไม่ส่งผลทางตรงต่อความพึงพอใจในงานของครู และภาวะผู้นำการเปลี่ยนแปลงไม่ส่งผลทางอ้อมต่อความพึงพอใจในงานผ่านความผูกพันของครูในการทำงาน ($p > .05$)

คำสำคัญ ภาวะผู้นำการเปลี่ยนแปลง, ความพึงพอใจในงาน, แรงจูงใจในการทำงาน, ความผูกพันในงาน, โรงเรียนอนุบาลจังหวัดชานตง

Abstract

The objectives of this research were (1) To explore the components of transformation leadership, work motivation, teacher commitment, and job satisfaction of teachers in public Kindergarten under Shandong province. (2) To develop the model of mediation effect of teacher commitment and work motivation on relationship between transformational leadership and job satisfaction of teachers in public kindergarten under Shandong province, and (3) To decompose the direct effect and indirect effect of transformational leadership, work motivation, teacher commitment on job satisfaction of teachers in public kindergarten under Shandong province.

Research design was quantitative research on mediation effect of teacher commitment and work motivation on relationship between transformational leadership and job satisfaction of teachers. The sample was determined by G*power program, total 423 teachers and obtained by multi-stage random sampling method. The statistics used for data analysis were descriptive statistics, Confirmatory Factor Analysis, and Structural Equation Model Analysis.

The results showed that: (1) Transformational leadership had the four components, included vision motivation, moral model, intellectual excitation, and human care; job satisfaction had the five components included work itself, work environment, salary and welfare, interpersonal relationship and promotion and development; work motivation had the two components included external motivation and internal motivation; and teacher commitment had the two components included self-efficacy and resilience, and hope. (2) The model was a goodness of fitted with empirical data (chi-square value = 189.416, $df = 57$, $CMIN/df = 3.323$, $CFI = 0.947$, $TLI = 0.927$, $SRMR = 0.060$, $RMSEA = 0.075$); and (3) Transformational leadership had a positive direct effect on job satisfaction, teacher commitment and work motivation (Direct effect value was .344, .675 and .347 respectively); work motivation had a positive direct effect (0.469) on job satisfaction ($p < .01$); Moreover, transformational leadership had an indirect effect on job satisfaction via work motivation and had indirect effect on job satisfaction via both teacher commitment and work motivation (Total indirect effect = .355) at significant level .01, But had not indirect effect on job satisfaction via the teacher commitment ($p > .05$).

Keywords: Transformational Leadership, Job Satisfaction, Work Motivation, Teacher Commitment, Shandong Province

Background and significance of the problem

In the era of globalization and knowledge economy, the education was a key driver of social progress and economic development to highly valued globally. As core education executors, teachers' job satisfaction directly impacted education quality and exerts profound effects on social stability with rapid educational development. The teachers' job satisfaction had influencing factors that become vital research topics. Nationally, "China's Education Modernization 2035" explicitly aimed to improve teacher quality and enhance their professional happiness and job satisfaction (Burns, 1978). The transformational leadership was important factor that effects on job satisfaction, enhancing teachers' psychological capital and work motivation (Li Chaoping et al., 2005).

As a major education, Shandong province had launched policies like the "14th Five-Year Plan for Education Development," optimizing teachers' working environment and guaranteeing preschool teachers' salaries to boost satisfaction. However, Over the past five years, there were a large number of teachers in Shandong province were still grapple with high pressure and burnout. There had few studies on transformational leadership in local education, and the roles of teacher commitment and work motivation remain under-explored, and from the literature reviews had some research found that transformational leadership could be effect on teachers' job satisfaction, motivation and commitment. (Leithwood et,al. 2000, Jia Jingwen2020, Ding Xuehong 1997). This research can offer scientific management strategies for education managers in Shandong province, such as improving satisfaction by fostering teacher commitment (Lu Chang'e et al., 2021), and provided a basis for policies on teacher training and career planning, stabilizing the teaching workforce and promoting educational sustainability.

Preschool education, a core part of basic education, deeply influenced children's physical and mental development. Preschool teachers' job satisfaction directly effected education quality, yet they faced challenges like high pressure and low professional identity. Studied show teacher commitment alleviates burnout and improves satisfaction, while transformational leadership enhanced work motivation and commitment also noted psychological capital's positive effected on job happiness. In Shandong province, public kindergarten teachers had relatively high satisfaction due to stable environments and job security. Applying transformational leadership in kindergarten management can create a positive atmosphere, strengthening commitment and motivation to boost satisfaction (Li Chaoping et al., 2005).

This study focused on the relationship between transformational leadership and job satisfaction of public kindergarten teachers in Shandong province, along with the mediating roles of teacher commitment and work motivation. The research rationale included: 1) Supporting education reform and preschool teacher team building in Shandong province, 2) Addressing teachers' pressure and burnout to meet their professional development needs. 3) Providing scientific strategies for kindergarten managers to enhance satisfaction and education quality. 4) Filling gaps in studies about public preschool teachers in Shandong province. The research explored variable relationships to stimulate positive work energy, adjusted work attitudes, optimized leadership styles, and promoted humanistic and high-value school management.

Research objective

To explore the components of transformation leadership, work motivation, teachers' commitment, and job satisfaction of teachers in public Kindergarten under Shandong province.

To develop the model of mediation effect of teachers' commitment and work motivation on relationship between transformational leadership and job satisfaction of teachers in public kindergarten under Shandong province.

To decompose the direct effect and indirect effect of transformational leadership, work motivation,

teachers' commitment on job satisfaction of teachers in public kindergarten under Shandong province.

Research hypothesis

H1: Transformational leadership (TL) has a positive direct effect on teachers' job satisfaction (JS).

H2: Transformational leadership (TL) has a positive direct effect on teachers' work motivation (WM).

H3: Transformational leadership (TL) has a positive direct effect on teachers' commitment (TC).

H4: Teacher work motivation (WM) has a positive direct effect on teachers' job satisfaction (JS).

H5: Teachers' commitment (TC) has a positive direct effect on teacher job satisfaction (JS).

H6: Teachers' commitment (TC) has a positive direct positive effect on work motivation (WM).

H7: Transformational leadership (TL) has an indirect effect on teachers' job satisfaction (JS) through teacher work motivation (WM).

H8: Transformational leadership (TL) has an indirect effect on teachers' job satisfaction (JS) through teacher commitment (TC).

H9: Transformational leadership (TL) has an indirect effect on teachers' job satisfaction (JS) through Teachers' commitment (TC) and work motivation (WM).

Conceptual framework

The conceptual framework of this study illustrates the relationship between variables. Transformational leadership factor, (TL); (Podsakoff 1990, Leithwood et.al. 2000, Li Chaoping et.al. 2005), it's contains four aspects: Vision Motivation (VM), Moral Model (MM), Intellectual Excitation (IE), and Human Care (HC). Job satisfaction factor, (JS); (Smith et.al. 1975, Chen Yunying et.al. 1994, Ololube 2006, Jia Jingwen2020), it's contains five aspects: Work Itself (WI), Working Environment (WE), Salary and Welfare (SW), Interpersonal Relationship (IR), and Promotion and Development (PD). Work motivation, (WM); (Agrawal 1988, Amabile 1994, Ding Xuehong 1997, Barbuto et.al. 1999), it's contains two aspects: External Motivation (EM) and Internal Motivation (IM). Teacher commitment, (TC); (Larson2006, Luthans2006, Xu Chao2020), it's contains two aspects: Self-Efficacy (SE) and Resilience and Hope (RH). This framework examines both the direct effect of TL on JS and the indirect effects of WM and TC as mediating variables. (As shown in Figure 1)

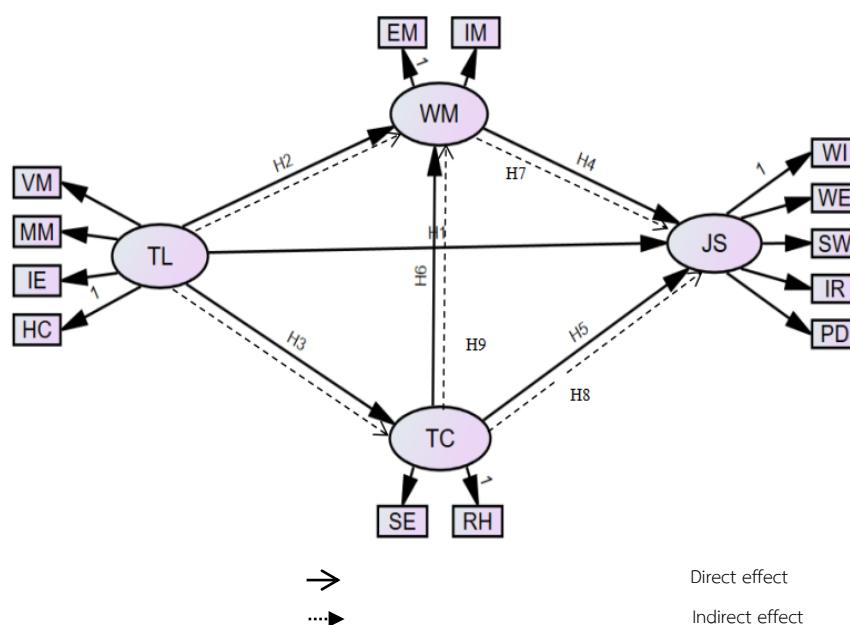


Figure1 Conceptual framework

Research Methodology

This study focused on public kindergartens in Shandong Province, aiming to explore the mediation effect of teachers' commitment and work motivation on relationship between transformational leadership and job satisfaction of public kindergarten teachers. A quantitative survey was used to construct a model and validate the influence of various variables, providing a theoretical basis for the management of public kindergartens in Shandong Province. Multivariate statistical methods were used to analyze data, with descriptive statistics employed to understand sample characteristics. AMOS software was used to assess the goodness of fit of the measurement model, and criterion were calculated to determine the fit between the model and the data. The measurement model quality was tested validity by AVE square root method, and composite reliability was assessed by CR values. Structural equation model analysis was used to verify hypotheses and explored direct and indirect effects between variables.

Research Design

According to the research objectives, this research will be divided into three steps:

Stage1: To explore the components of transformation leadership, work motivation, teachers' commitment, and job satisfaction of teachers in public Kindergarten under Shandong province, find out from the theory and related research.

Stage 2: The study base on the step 1, to develop the model of mediation effect of teachers' commitment and work motivation on relationship between transformational leadership and job satisfaction of teachers in public kindergarten under Shandong province; Date correcting by the Questionnaire and CFA analysis.

Stage 3: To decompose the direct effect and indirect effect of transformational leadership, work motivation, teachers' commitment on job satisfaction of teachers in public kindergarten under Shandong province and SEM statistic.

Population and sample

According to the statistical bulletin of Shandong province education development in 2023, there were 183,000 kindergarten teachers engaged in teaching in public kindergartens, due to the large population of this study, the sample size was total 423 teachers determined by G*power. With the following parameters: effect size $w = 0.30$, a err prob = 0.05, Power =0.80, and degrees of freedom $df = 86$, which was obtained through a multi-stage random sampling method.

Research instruments

The data was collected through a questionnaire survey, which consisted of two parts. The first part collects basic information; The second part was a 5-point rating scale for transformational leadership, job satisfaction, work motivation, teachers' commitment. After had 5 experts evaluated the validity of the questionnaire content, they were the leader of public kindergartens and had experience more 10 years, using the IOC index was value between 0.6 to 1.0, and revise the questionnaire to ensure that it accurately reflects the research objectives. and the reliability value for each factor was between .75 to .85.

Data Collection

This research will collect data through a questionnaire survey, with the primary target audience being teachers from 12 public kindergartens in Shandong province. The questionnaire will be distributed to teachers in the relevant kindergartens through various channels, including online surveys, and social platforms such as WeChat.

Data analysis

To facilitate the presentation and interpretation of research results, a series of symbols and abbreviations were used in the study. TL represented transformational leadership, JS represented job satisfaction, WM represented work motivation, TC represented teachers' commitment. The data analyzed on descriptive with

percent, mean, SD, Skewness and Kurtosis, and inferential statistic with CFA and SEM.

Research Result

1) From the literature reviews, Transformational leadership were 4 components included; vision motivation, moral model, intellectual excitation, and human care. job satisfaction were 5 components included; work itself, work environment, salary and welfare, interpersonal relationship, and promotion and development. work motivation were 2 components included; external motivation and internal motivation. And teachers' commitment 2 components included; self-efficacy and resilience and hope.

2. From the questionnaires

(1) The data was collecting from the questionnaires, the result on the information of respondents as shown in table 1.

Table 1 Demographic Information(n=423)

	Level	Frequency	Percentage	Cumulative
Gender	Female	356	84.2	84.2
	Male	67	15.8	100
Teaching age	5 Years and below	322	76.1	76.1
	6-10 Years	60	14.2	90.3
	11-20 Years	28	6.6	96.9
	21-30 Years	9	1.9	98.8
	31 years and above	5	1.2	100
Educational level	Bachelor degree or below	100	23.7	27.5
	Masters	305	72.1	95.8
	Doctors	18	4.2	100
Professional title	Junior	366	86.5	86.5
	Intermediate	50	11.8	98.3
	Senior	7	1.7	100
Position	Teaching faculty	168	39.7	39.7
	Teaching assistant	165	39	78.7
	Childcare Teacher	41	9.7	88.4
	Other teachers	49	11.6	100

From Table 1, The sample size on the table there were total 423 teachers. Among them, 67 were male (15.8%) and 356 were female (84.2%). Most teachers had teaching age of 5 years or less, totaling 322 (76.1%). According to education level, 100 with bachelor's degree (23.7%), 305 with master degree (72.1%), and 18 with doctoral degree (4.2%). According to professional title classification, there were 366 with junior professional (86.5%), 50 with intermediate professional (11.8%), and 7 with senior professional (1.7%). According to the position in kindergarten, there were 168 teachers in teaching positions (39.7%), 165 teacher assistants in class (39%), 41 childcare teachers (9.7%), and 49 teachers in other positions (11.6%).

(2) Data descriptive analysis on mean, standard deviation, Skewness and Kurtosis from the questionnaires, as shown in table 2.

Table 2 The standard deviation of coefficient of variation, skewness, and kurtosis.

$\bar{x}$	S.D.	Skewness	Kurtosis
-----------	------	----------	----------

TL	VM	3.46	1.15	-0.937	0.4961
	MM	3.42	1.14	-1.007	0.3764
	IE	3.42	1.08	-1.149	0.7431
	HC	3.46	1.15	-1.086	0.6720
JS	WI	3.18	1.09	-0.825	-0.1215
	WE	3.28	1.10	-0.960	0.2005
	SW	2.92	1.06	-0.528	-0.6863
	IR	3.28	1.11	-1.268	1.3318
TC	PD	3.22	1.08	-1.006	0.4884
	SE	3.27	1.23	-0.887	0.3371
	RH	3.32	1.34	-0.737	0.0462
WM	EM	3.45	1.17	-0.472	-0.1635
	IM	3.30	1.23	-1.019	0.7996

From the table 2, It can be seen the mean value of each variable was between 2.92-3.46, and the distribution was relatively balanced, and the standard deviation of each variable was between 1.06-1.34, which indicated that the sample data dispersion was small. The absolute value of skewness coefficient was lower than 3, and the absolute value of kurtosis coefficient was lower than 8. Both skewness and kurtosis showed that all variables were distributed normally.

(3) The correlation Between Latent Variables

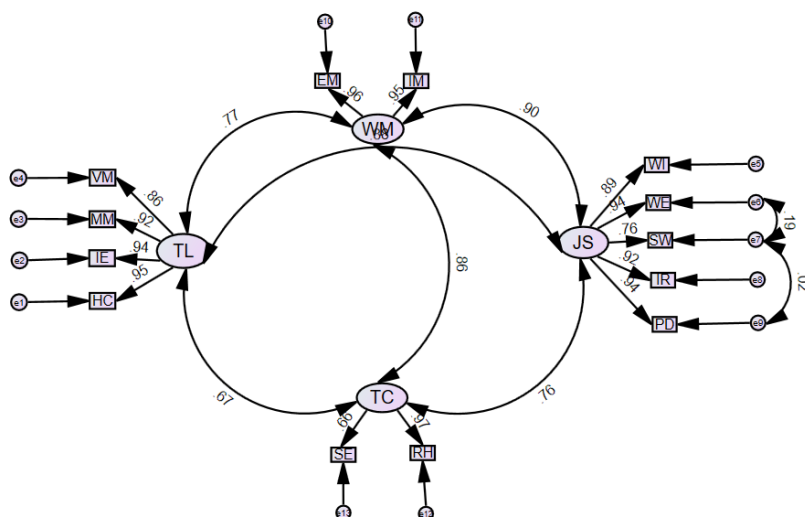
Table3 The correlation Between Latent Variables

Latent	TL	JB	TC	WM
TL	1			
JS	.839**	1		
TC	.760**	.855**	1	
WM	.583**	.639**	.750**	1

** . Significant correlation at the.01 level (2-tailed).

From Table 3, it was summarized that showed the significance at level 0.01. As a result, there was correlation between transformational leadership, job satisfaction, teachers' commitment and work motivation.

(4) Measurement model (Confirmation factors Analysis model)



Chi-square=189.416, df=57, p=.000, ratio=.375, CFI=.947, TLI=.927, RMSEA=.075

Figure 2 Measurement Model

Table 4 Respecified Measurement Model

Measure	Estimate	Threshold	Interpretation
---------	----------	-----------	----------------

CMIN	189.416	--	
Df	57	--	
CMIN/df	3.323	1-3Excellent, 3-5 Acceptable	Acceptable
CFI	0.947	>0.95Excellent, >0.9 Acceptable	Acceptable
TLI	0.927	>0.95 Excellent, >0.9 Acceptable	Acceptable
SRMR	0.060	<0.05 Excellent, <0.08 Acceptable	Acceptable
RMSEA	0.075	<0.05 Excellent, <0.08 Acceptable	Acceptable

From Table 4, it was summarized that the results of statistics and indicators to evaluate the model fit. The Chi-square (CMIN) of test statistics used to test the difference between the hypothesis model and the empirical data was 189.416 and the df was 57. The relative chi-square (CMIN/df) was 3.323 which less than 5. The comparative fit index (CFI) was 0.947 which more than 0.9, the Tucker-Lewis index (TLI) was 0.927 which was more than 0.9. The Standardized Root Mean Square Residual (SRMR) which was 0.060 and less than 0.08. They were acceptable. The root mean square error of approximation (RMSEA) of 0.075 which was less than 0.08, it was acceptable. As a result, it showed that all indicators were acceptable to be used in measurement model.

Table 5 Respecified Measurement Model: Factor loadings in unstandardized and standardized for each other

Relationship			Unstandardized	S.E.	Standardized	C.R.	P
VM	<---	TL	0.830	0.048	0.861	17.405	<.001
MM	<---	TL	0.753	0.035	0.918	21.384	<.001
IE	<---	TL	0.936	0.039	0.944	23.855	<.001
HC	<---	TL	1.000		0.945		
WI	<---	JS	1.000		0.890		
WE	<---	JS	0.982	0.052	0.936	18.831	<.001
SW	<---	JS	0.981	0.081	0.764	12.043	<.001
IR	<---	JS	1.001	0.056	0.918	17.883	<.001
PD	<---	JS	1.054	0.055	0.943	19.222	<.001
SE	<---	TC	0.764	0.086	0.663	8.931	<.001
RH	<---	TC	1.000		0.971		
EM	<---	WM	1.000		0.959		
IM	<---	WM	1.035	0.039	0.954	26.280	<.001

From Table 5, it was summarized that the loadings in standardized ranges from 0.663 to 0.971 which more than 0.50 and all were statistically significant. As a result, these indicators were suitable to construct the measurement model.

Table 6 Composite reliability (CR), average variance extracted (AVE), and factor correlation matrix

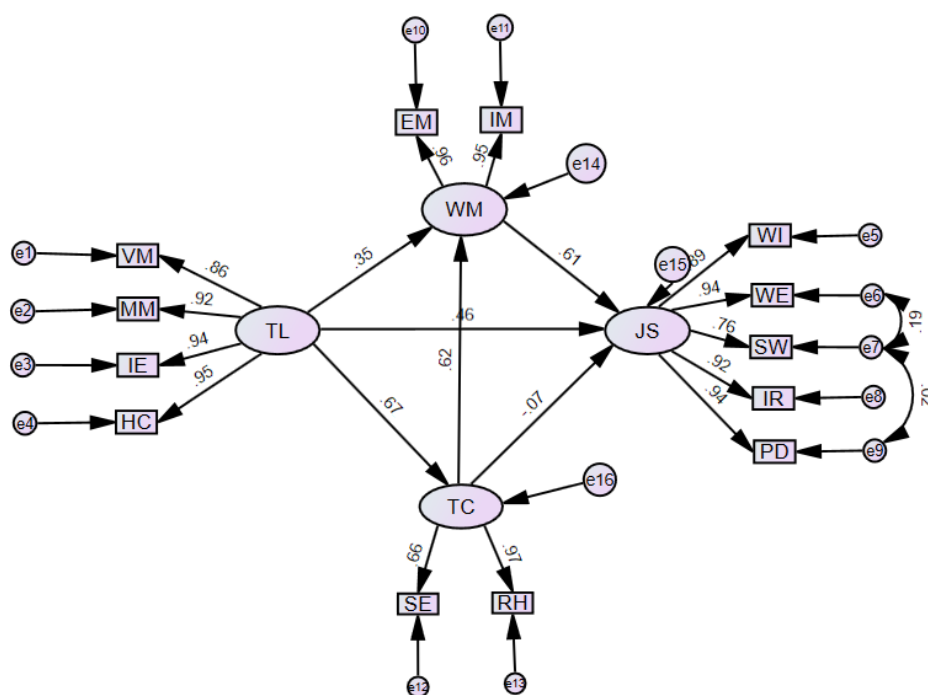
Factors	CR	AVE	TL	JS	WM	TC
TL	0.958	0.842	0.918			
JS	0.954	0.797	0.720	0.893		
WM	0.841	0.691	0.650	0.580	0.831	
TC	0.956	0.916	0.800	0.750	0.690	0.957

From Table 6, it was summarized that the composite reliability (CR) of 4 factors ranged from 0.841 to 0.958 which were over 0.7. As a result, it pointed that all factors had acceptable reliability.

And the average variance extracted (AVE) of 4 factors ranged from 0.691 to 0.916 which were over 0.5. As a result, it pointed out all factors had convergent validity, and the measure model had quality in term of contents validity.

The number on the diagonal represents the square root of AVE. In this study was used measure of discriminant validity and the square root of all AVE (Fornell and Larcker, 1981) was greater than the correlation coefficient between all the other latent variables. As a result, it showed that the factors had good discriminant validity.

(5) Hypothesis Testing



Chi-square=189.416, df=57, p=.000, ratio=.375, CFI=.947,
TLI=.927, RMSEA=0.075

Figure 3 Structural equation model and their path coefficient in standardized and statistics for model evaluation

From Figure 3, it was summarized that the analysis of structural equation model in standardized on the purpose of hypothesis testing, and effect decomposition.

Table7 Hypothesis testing of direct effects

	Relationship	Unstandard	Standardized	S.E.	C.R.	P	Hypothes
JS	<--- TL	0.344	0.457	0.047	7.338	<.001	H1
WM	<--- TL	0.347	0.355	0.074	4.675	<.001	H2
TC	<--- TL	0.675	0.672	0.068	9.886	<.001	H3
JS	<--- WM	0.469	0.609	0.076	6.142	<.001	H4
JS	<--- TC	-.056	-.074	0.061	-.913	.361	H5

WM	<---	TC	0.606	0.622	0.090	6.743	<.001	H6
----	------	----	-------	-------	-------	-------	-------	----

From table 7, the hypothesis testing results of structural equation modeling showed that all direct effects hypotheses (H1-H6) are supported. Transformational leadership had a significant effect on job satisfaction and work motivation and teachers' commitment ($p<.001$). Work motivation had a significant effect on job satisfaction ($p<.001$). Teachers' commitment had a significant effect on work motivation ($p<.001$). But teachers' commitment had not a significant effect on job satisfaction ($p=.361$).

Table 8 Hypothesis testing of indirect effects

Relationship	Estimates	Lower	Upper	P	Hypothesis
JS<---WM<---TL	0.163	0.063	0.322	0.006	H7
JS<---TC<---TL	-.038	-.277	0.043	0.333	H8
JS<---WM<---TC<---TL	0.192	0.079	0.687	0.000	H9

From table 8, hypothesis testing for H7, it had statistically significant ($p=0.006$), with a path coefficient of 0.163 and both upper and lower confidence intervals not including 0, verifying H7, which indicated transformational leadership had a indirect effect on job satisfaction through the work motivation.

Hypothesis testing for H8, it was summarized that the estimated effect was -.038, and had not statistically significant ($p=0.003$), which indicated that transformational leadership had not indirect effect on job satisfaction through work motivation.

Hypothesis testing for H9, the estimated effect was 0.192, and had statistically significant ($p<.001$), with a path coefficient of 0.192 and both upper and lower confidence intervals not including 0, verifying H9 which indicated that transformational leadership had a mediated effect on job satisfaction through teachers' commitment and work motivation.

Conclusion

(1) Transformational leadership were 4 components included; vision motivation, moral model, intellectual excitation, and human care. Job satisfaction included work itself, work environment, salary and welfare, interpersonal relationship, promotion and development; Work motivation included external motivation and internal motivation. Teachers' commitment included self-efficacy, and resilience and hope.

(2) Model was modified, the model fitted with the empirical data well (Chi-square value = 189.416, degrees of freedom = 57, CMIN/df = 3.323, CFI = 0.947, TLI = 0.927, SRMR = 0.060, RMSEA = 0.075).

(3) Transformational leadership had a direct positive effect on job satisfaction, teachers' commitment, work motivation; work motivation had a positive direct effect on job satisfaction; teachers' commitment had a positive direct effect on work motivation; transformational leadership had positive indirect effect on job satisfaction via work motivation; transformational leadership factor had positive indirect effect on job satisfaction via teachers' commitment and work motivation ($p<.01$). But teachers' commitment factor had not direct effect on job satisfaction ($p>.05$); and transformational leadership factor had not indirect effect on job satisfaction via the teachers' commitment ($p=0.33$).

Discussions

(1) The component of the job satisfaction consisted of work itself, working environment, salary and welfare, interpersonal relationship, promotion and development. Based on literature and related studies, in this research, it is adopted Chen Yunying et, al. (1994), Wu Min (2020) and Jia Jingwen (2020) about the aspects of job satisfaction, it can serve as the theoretical basis for studying the teacher job satisfaction of public kindergartens. Transformational leadership will be composed of four factors as vision motivation, moral model, intellectual excitation, and human care. This research adopted the four-dimensional division of Podsakoff (1990), Leithwood et, al. (2000), and Li Chaoping et, al. (2005). Work motivation will be composed of two factors as external motivation, and internal motivation. This research adopts the two-dimensional division of Amabile (1994), Ding Xuehong (1997) and Barbuto et, al. (1999) to divide work motivation into two dimensions. Teachers' Commitment

composed two factors as self-efficacy and resilience and hope. This research adopts the two-dimensional division of Luthans (2006) about aspects of commitment.

(2) The revised model was obtained ($\chi^2=189.416$, CFI=0.947, TLI=0.927, RMSEA=0.075, all indicators were shown fitted with the empirical data, indicating that the model has excellent construct validity and empirical fit. In order to explore the relationship between transformational leadership, teachers' job satisfaction, work motivation and teachers' commitment, this study constructed a structural equation model based on existing research results. The test showed that the measurement model had good quality.

(3) For decomposed on direct effects and indirect effects, it concluded transformational leadership not only had a significant and positive direct effect on teacher job satisfaction, but also had a direct effect on teacher work motivation and teachers' commitment in the same direction and intensity. This result was consistent with the consensus on the "multi-path empowerment" of transformational leadership in educational contexts at home and abroad, indicated that the principal can simultaneously activate the teacher's emotional and cognitive systems through vision motivation, human care, moral model and intellectual excitation, laying a positive tone for subsequent attitudes and behaviors. Further path analysis showed that teacher work motivation also had a significant positive effect on job satisfaction, indicated that in the public kindergarten organizational field with both administrative norms and professional autonomy, the teacher's internal active involvement was still an important driving force for improving subjective well-being. However, the direct effect of teachers' commitment on job satisfaction did not reach a statistically significant level. This result suggested that simple emotional attachment or normative loyalty, without corresponding resource support, professional growth opportunities and a sense of fairness, was difficult to directly transform into a satisfactory experience and may even lead to emotional exhaustion due to the "high expectations-low rewards" gap.

Transformational leadership had a mediated effect on teacher job satisfaction through Teachers' commitment and work motivation. This study confirmed the model was proposed by Bakker (2007), based on the job demands-resources model. It was believed that whether any psychological mediating variable (such as commitment and motivation) can successfully transmit the effect of leadership behavior on job satisfaction depends on the dynamic match between resource supply and job requirements. there had not partial indirect effect of transformational leadership on teachers' job satisfaction via teacher work motivation. This study confirmed the findings about three-dimensional commitment theory points out that organizational commitment included effective commitment, continuance commitment and normative commitment. Only when effective commitment and normative commitment are activated by high satisfaction situational factors at the same time and supported by resources, can commitment be significantly transformed into job satisfaction.

Recommendation

Recommendation for Practical

(1) The transformational leadership demonstrated by administrators in kindergarten schools can not only directly affect job satisfaction but also increase teachers' commitment and motivation to work.

(2) The transformational leadership demonstrated by kindergarten administrators can increase the job satisfaction of kindergarten teachers through their work commitment and work motivation. Therefore, administrators should have a plan to develop both the leadership, work motivation and work commitment of teachers simultaneously.

(3) To enhance teacher job satisfaction, opportunities should be provided for teachers to showcase their professional achievements and student outcomes to the public, including parents, colleagues, and school directors. These accomplishments should be appropriately and fairly linked to performance-based bonuses, career advancement, and external training opportunities. Such recognition will foster motivation and a sustained commitment to work, ultimately improving student quality and overall school effectiveness.

Recommendation for Policies

(1) Strengthen pre-service training for kindergarten principals, including qualification exams and compulsory modules for advanced training every five years. The curriculum design focuses on the four dimensions of vision motivation, personalized care, intellectual stimulation, and role model demonstration, and is supplemented by case studies, role playing, and shadowing.

(2) Develop a digital monitoring platform for two-way feedback between kindergarten managers and teachers. Collect data on teachers' work motivation, emotional commitment, and job satisfaction every semester, and used dashboards to push risk warnings and improvement suggestions to principals.

(3) Optimize data on the data platform, directly linking principal performance, job promotion, with the improvement rate of teachers' intrinsic motivation being no less than 30%. Add a special indicator of transformational leadership effectiveness in the provincial teacher title evaluation and special teacher selection. Schools were required to provide longitudinal evidence of teacher motivation and satisfaction over the past three years, as well as third-party observation reports on the transformational leadership behavior of principals.

Recommendation for Further Research

Further studies should be conducted on other variables, such as emotional intelligence and teacher expectations, to cover all components more comprehensively. Alternatively, studies could be conducted on sample groups of teachers in public kindergartens in other provinces to compare whether there are differences in the results. Furthermore, a qualitative research methodology could be developed for pilot testing to further enhance this research.

References

- Agrawal. (1988). **Mentoring and beginning teacher workplace learning**. Asia pacific journal of teacher Education, 29(3), 249.
- Amabile. (1994). **Experiences of beginning teachers in a school-based mentoring programme Sweden**. Educational Studies, 31(3), 251-263.
- Bakker. (2007). **Teacher work redesign and job satisfaction**. Educational Administration Quarterly, 29 (4):453-478.
- Barbuto et, al. (1999). **Structural context of opportunities**. Chicago: University of Chicago press.
- Burns. (1978). **Two Decades of Research and Development in Transformational Leadership**. European Journal of Work and Organizational Psychology, 8(1):9.
- Chen Yunying et, al. (1994). **Organizational climate for innovation and creative teaching in urban and rural schools**. Qual Quant, (45):935-951.
- Ding Xuehong. (1997). **Research on the performance management of knowledge-based employees**. Northeast Normal University Press.
- Jia Jingwen. (2020). **Study on the Influence of School Principals Transformational Leadership on Teachers Job Satisfaction: The Mediating Role of Psychological Capital**, East China Normal University.
- Larson. (2006). **School Principals' Authentic Leadership and Teachers' Psychological Capital: Teachers' Perspectives**. International Education Studies, 10(9): 245-255.
- Leithwood et, al. (2000). **A theory of human motivation**. Psychological Review, 50(4):112-129
- Li Chaoping et, al. (2005). **The operation of distributed leadership and the relationship with organizational commitment and job satisfaction of principals and teachers: A multi-level model and meta-analysis using the 2013 TALIS data**. International Journal of Educational Research, (96):41-55.
- Lu Chang'e et, al. (2021). **The Contingency Model and the Dynamics of the Leadership Process Science Direct**. Advances in Experimental Social Psychology, 11:59.
- Luthans. (2006). **Psychological capital development: Toward a micro intervention**. Journal of Organization Behavior, 2006(27):387-393.
- Ololube. (2006). **Organizational Servant Leadership and Its Relationship to Secondary School Effectiveness**. Florida Atlantic University.
- Podsakoff. (1990). **The logic of scientific discovery**. New York: harper and row.
- Smith et, al. (1975). **Hope theory, Rainbows in the mind**. Journal of Psychological inquiry, (13):547-556.
- Wu Min. (2020). **Organizational Socialization Tactics: A Longitudinal Analysis of Links to Newcomers' Commitment and Role Orientation**. Academy of Management Journal, 33(4): 847-858.
- Xu Chao. (2020). **Reforming Labor Relationship China's State-Owned Enterprises: The Impact of Balancing Measures**. Issue and Studies, (38):85-121.