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How to Build Fearless Chinese Kindergartens: Inclusive leadership Creates Psychological Safety via Leader-Member Exchange and Teacher Efficacy

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Abstract

Kindergarten teachers in China often experience low psychological safety, negatively impacting preschool education. This study examines how principal inclusive leadership may improve teacher psychological safety, with leader-member exchange and teacher efficacy as mediators. Using data from 1,020 kindergarten teachers in Guangxi, structural equation modeling and Bootstrap methods were applied. Results show that principal inclusive leadership significantly boosts psychological safety, with teacher efficacy and leader-member exchange serving as sequential mediators. The study proposes a new model linking inclusive leadership to psychological safety, providing practical insights for supporting kindergarten teachers' well-being.

Keywords

principal inclusive leadership; leader-member exchange; teacher efficacy; teacher psychological safety; kindergarten teacher

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1. Introduction

Psychological safety, defined as the ability to perform without fear of negative consequences to self-image or status[1], enables individuals to focus on goals and fosters growth in dynamic environments. In organizations, it enhances engagement, voice, and innovation, while in education it supports collaboration, teacher well-being, and reduces stagnation.

In China, kindergarten teachers face significant challenges, including high work stress due to dual care and education roles[2], low professional recognition, and lower pay compared to other educational stages. Despite regulatory improvements post-2010, parental trust remains low, intensifying stress and psychological insecurity. Such conditions contribute to anxiety and attrition among teachers. Furthermore, rising expectations for continuous innovation add to these pressures.

Leadership significantly influences psychological safety[3]. Inclusive leadership—characterized by openness, accessibility, and support—can foster belonging and autonomy, making it particularly suitable for China's diverse yet collectivist teaching environment. Leader-member exchange (LMX) theory emphasizes reciprocal, trust-based relationships, while teacher efficacy—a belief

in one's instructional capability—mediates between environment and action and is influenced by leadership.

Although inclusive leadership, LMX, teacher efficacy, and psychological safety appear interrelated, these connections are underexplored in education. This study surveyed 1,020 kindergarten teachers in Guangxi to examine whether principal inclusive leadership affects psychological safety through the sequential mediation of LMX and teacher efficacy.

2. Theoretical and hypotheses

2.1. From Principal Inclusive Leadership to Teacher Psychological Safety

Inclusive leadership's role in fostering psychological safety is supported by the demand-control model, which highlights autonomy as key to reducing work-related stress. Inclusive leaders respect subordinates' ideas and encourage autonomy, which helps mitigate fear of blame or punishment[4]. Such leadership promotes open communication and reduces the perceived risk of voicing opinions.

By modeling openness, inclusive leadership also cultivates tolerance for differences, enhancing psychological security. Leaders establish norms that encourage both individual expression and mutual receptiveness to others' ideas. This builds a supportive environment of respect, dialogue, and autonomy, thereby strengthening psychological safety.

Thus, the following hypothesis is proposed:

Hypothesis 1: The principal's inclusive leadership significantly influences teachers' psychological safety.

2.2. Leadership Member Exchange as a Mediator

Leader-member exchange (LMX) quality reflects the level of mutual resource and support exchange between leaders and subordinates. Low-quality LMX is transactional and contract-based, while high-quality LMX involves relational exchanges with greater trust, respect, and support.

Inclusive leaders, through openness and engagement, cultivate higher-quality LMX that extends beyond transactional interactions, promoting psychological safety. Frequent interactions further strengthen these ties. Additionally, inclusive leaders' recognition of subordinates' efforts fulfills needs for acknowledgment, fostering supportive, affective relationships and high-quality LMX. This signals to employees that they are valued insiders, enhancing their psychological safety.

Therefore, we propose:

Hypothesis 2: Leadership member exchange mediates the relationship between principal inclusive leadership and teacher psychological safety.

Inclusive leadership also enhances teacher efficacy through LMX. Self-efficacy is influenced by achievement experiences, vicarious learning, encouragement, and emotional state [5]. High-quality LMX enables principals to understand teachers' challenges, support achievements, provide observational learning, offer encouragement, and foster positive emotions. Teachers perceiving higher LMX relative to peers tend to feel more competent and assured, whereas lower LMX can diminish self-efficacy.

Thus, we propose:

Hypothesis 3: Leadership member exchange mediates the relationship between principal inclusive leadership and teacher efficacy.

2.3. Teacher Efficacy as a Mediator

In the demand-control model, personal autonomy—encompassing control over tasks, future prospects, and perceived competence—is central to occupational stress. Reduced autonomy heightens anxiety, while strong self-efficacy correlates with greater confidence, job control, and psychological well-being.

Teacher efficacy increases when leaders provide organizational resources, grant classroom flexibility, and involve teachers in decisions. Leaders who model behaviors, promote shared purpose, and offer contingent rewards also enhance teaching efficacy. Strong efficacy beliefs boost job security as followers derive security from competence and purpose. Research confirms that higher self-efficacy reduces job insecurity.

Therefore, we propose:

Hypothesis 4: Teacher efficacy mediates the relationship between leader-member exchange and psychological safety.

2.4. Leadership Member Exchange and Teacher Efficacy as Sequential Mediators

Based on the preceding discussion, a sequential pathway

is proposed. Principal inclusive leadership fosters high-quality leader-member exchange (LMX), characterized by trust, respect, and support. This high-quality LMX, in turn, enhances teacher efficacy by providing achievement experiences, role modeling, encouragement, and positive emotional support. Increased efficacy boosts teachers' self-evaluation and sense of autonomy, thereby reducing anxiety and strengthening psychological safety.

Consequently, the following hypothesis is advanced:

Hypothesis 5: Leader-member exchange and teacher efficacy sequentially mediate the relationship between principal inclusive leadership and teacher psychological safety.

The hypothesized model (**Figure 1**) is presented to examine the influence of principal inclusive leadership on teacher psychological safety, and the mediating roles of leader-member exchange and teacher efficacy.

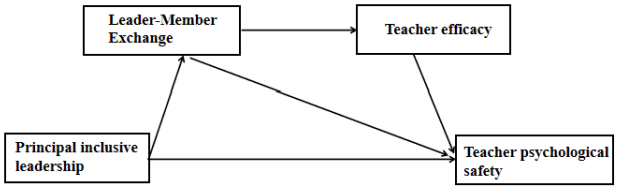

Figure 1. The conceptual model

3. Materials and methods

3.1. Participants

This study surveyed kindergarten teachers in Guangxi, China, in 2022, where the total population was 122,700 (Department of Education, Guangxi Zhuang Autonomous Region, 2023).

Using stratified random sampling, a minimum sample size of 663 was calculated at a 99% confidence level with a 5% margin of error. Five cities were randomly selected from different regions: Nanning, Liuzhou, Guilin, Yulin, and Hechi. Approximately 56 kindergartens were randomly chosen from each city, with five teachers randomly selected per kindergarten, resulting in 280 kindergartens and 1,400 questionnaires distributed.

We received 1,342 responses (95.86% recovery rate). After excluding invalid responses, 1,020 valid questionnaires remained (76% validity rate), exceeding the minimum sample requirement.

Sample demographics are shown in **Table 1**: 97.5% were female; 64.1% Han Chinese, 35.9% ethnic minority; 54.3% aged 21–30; 52% had taught under five years; 94.6% held a university degree or higher; and 67.7% worked in urban areas.

3.2. Measurements

3.2.1. Principal Inclusive Leadership Scale

The principal inclusive leadership scale by Carmeli et al. (2010) includes nine items and is widely treated as unidimensional [6]. Using a 7-point Likert scale, this study observed a Cronbach's alpha of 0.981, with factor loadings between 0.878 and 0.945. Model fit indices were strong ($\chi^2/df = 2.466$, NFI = 0.999, TLI = 0.989, CFI =

Table 1. Demographic characteristics of the participants.

Attributes		Frequency	(%)	Attributes		Frequency	(%)
Gender	Male	26	2.5	Major	pre-primary education majors	865	84.8
	Female	994	97.5		Other education majors	89	8.7
Ethnicity	Han Chinese	654	64.1		Non-education majors	66	6.5
	Ethnic minorities	366	35.9	Teaching years	Under 5	531	52
Age	Under 20	7	0.7		5-10	256	25.1
	20-30	554	54.3		10-20	157	15.4
	30-40	315	30.9		Above 20	76	7.5
	40-45	87	8.5	Location	City	691	67.7
	Above 45	57	5.6		Town	257	25.2
Education	High school	55	5.4		Country	72	7.1
	College degree	437	42.8				
	Bachelor's degree	528	51.8				
Total		1020					

0.999, RMSEA = 0.038).

The Leader-Member Exchange Scale (Graen & Uhl-Bien, 1995) consists of seven items. In this study, it showed a Cronbach's alpha of 0.928, with factor loadings ranging from 0.64 to 0.89, and demonstrated good model fit (χ^2/df = 2.494, NFI = 0.998, TLI = 0.997, CFI = 0.999, RMSEA = 0.038).

3.2.2. Teacher Efficacy Scale

Tschannen-Moran and Hoy (2001) developed a 12-item Teacher Efficacy Scale, encompassing dimensions of teaching strategy efficacy and student engagement efficacy. The original scale reported a Cronbach's alpha of 0.90, with subscale alphas of 0.86, 0.81, and 0.86. In the current study, using a 7-point Likert scale, the overall scale Cronbach's alpha was 0.942, and the subscale alphas were 0.894, 0.87, and 0.85. Factor loadings ranged from 0.785 to 0.901. The model fit indices, including χ^2/df = 3.598, NFI = 0.99, TLI = 0.985, CFI = 0.989, and RMSEA = 0.05, exceeded the acceptable thresholds.

3.2.3. Teacher Psychological Safety Scale

Psychological safety was assessed using the unidimensional five-item scale devised by Liang et al. (2012), which initially reported a Cronbach's α of 0.75. Respondents rated items on a 7-point Likert scale, with higher scores signifying greater psychological safety. In the present study, the scale achieved a Cronbach's α of 0.873. Factor loadings varied between 0.582 and 0.927. Model fit was established with indices: χ^2/df = 2.017, NFI = 0.998, TLI = 0.997, CFI = 0.999, and RMSEA = 0.032, all of which are within acceptable ranges.

3.3. Statistical Analyses

We analyzed the data using SPSS 27.0.1.0 and AMOS 23.0.0.Confirming normality and no multicollinearity issues. Our Structural Equation Modeling (SEM) involved first validating the measurement model, then testing the structural model, including mediating effects using the Bootstrap method. Key thresholds for model fit included:Factor Loadings ≥ 0.5(Dash & Paul, 2021),Chi-square to degrees of freedom ratios (χ2/df) between 1 and 5,Root Mean Squared Error of Approximation (RMSEA) < 0.08,Tucker-Lewis Index (TLI), Normed Fit Index (NFI), and Comparative Fit Index (CFI) all > 0.90[7].Average Variance Extracted (AVE) > 0.5 and Construct Reliability (CR) > 0.7 (Hatcher, 1994). These steps ensured a comprehensive and statistically sound evaluation of the research hypotheses.

4. Results

4.1. Confirmatory Factor Analysis (CFA) and Common Method Bias Tests

A full-measurement model consisting of principal inclusive leadership, leader-member exchange, teacher efficacy, and Teacher Psychological Safety. The model had factor loadings of 0.711-0.943, the model fit indexes were χ2/df= 4.315, NFI= 0.955, TLI=0.961,CFI= 0.965, RMSEA= 0.057,above acceptable levels.

As seen in **Table 2**, the AVE of the four latent variables were 0.637-0.857 and the CR were 0.874-0.958, thus the convergent validity of the model was acceptable. In addition, the square root of AVE is greater than the absolute value of the correlation coefficients of the latent variables in the rows and columns, so the discriminant validity is also acceptable.

Data were collected concurrently and from the same source, so there may be common method bias exist.

Table 2. Convergent validity and discriminant validity

Factor	Factor loading	CR	AVE	1	2	3	4
1.PIL	0.885-0.943	0.958	0.852	0.92			
2.LMX	0.792-0.893	0.874	0.637	0.660***	0.80		
3.TE	0.777-0.901	0.947	0.857	0.319***	0.405***	0.93	
4.TPS	0.711-0.919	0.916	0.732	0.808***	0.757***	0.432***	0.92

Note.PIL=Principal inclusive leadership;LMX=Leader-member exchange;TE=Teacher efficacy;TPS=Teacher psychosocial safety;*p<0.05，**p<0.01，***p<0.001.n=1020 teachers

We used the Harman single factor test to examine the potential impact of common method bias on the outcomes of the study. The fit indices of the one-factor model were very poor, χ2/df= 21.881, NFI= 0.768, TLI=0.753,CFI= 0.776, RMSEA= 0.143, and significantly worse than the four-factor model. This means that the problem of common method bias can be ignored.

4.2. Descriptive and Correlation Test

As shown in **Table 3**, principal's inclusive leadership is significantly and positively related to leader-member exchange(r=0.771,p<0.01), teacher efficacy(r=0.300,p<0.01), and teacher psychological safety(r=0.624,p<0.01). Leader-member exchange is significantly and positively related to teacher efficacy(r=0.399,p<0.01) and teacher psychological safety(r=0.692,p<0.01). Teacher efficacy is significantly and positively correlated with teacher psychological safety(r=0.387,p<0.01). These correlations support the next step of hypothesis testing.

4.3. Hypothesis Test

For hypothesis testing, we constructed a SEM with principal inclusive leadership as the independent variable, teacher psychological safety as the dependent variable,leader-member exchange and teacher efficacy as the mediator variables. the model fit indices were χ^2/df= 4.712, NFI= 0.971, TLI=0.971,CFI= 0.977, RMSEA= 0.060, all of which exceeded acceptable level.

As shown in **Table 4**, principal inclusive leadership (PIL) positively influences teacher psychological safety (TPS) (β=0.159, p<0.001), supporting H1. PIL also positively affects leader-member exchange (LMX) (β=0.806, p<0.001). LMX positively influences both

Table 3. Descriptive and correlation analysis

	Mean	SD	1	2	3	4	5	6	7	8	9
1. Gender	1.970	0.158	——								
2. Ethnicity	1.360	0.480	-0.009	——							
3.Age	3.590	1.514	0.042	-.064*	——						
4.Educational level	2.460	0.597	-0.031	-0.030	.147**	——					
5.Teaching age	2.580	1.509	0.041	-0.050	.786**	-0.018	——				
6.PIL	5.465	1.101	0.022	-0.060	.084**	-0.013	.068*	——			
7.LMX	5.272	1.025	0.003	-.064*	.163**	-0.045	.141**	.771**	——		
8.TE	5.353	0.849	0.044	0.000	.116**	-0.017	.212**	.300**	.399**	——	
9.TPS	5.158	0.991	0.007	0.003	.192**	-.098**	.162**	.624**	.692**	.387**	——

Note.PIL=Principal inclusive leadership;LMX=Leader—member exchange;TE=Teacher efficacy;TPS=Teacher psychosocial safety.*p<0.05，**p<0.01，***p<0.001.n=1020Teachers

Table 4. SEM path coefficients

Path			Unstd.	Std.	S.E.	C.R.	P
PIL	→	TPS	0.091	0.159	0.026	3.529	***
PIL	→	LMX	0.717	0.806	0.025	29.098	***
LMX	→	TPS	0.379	0.585	0.035	10.68	***
TMX	→	TE	0.351	0.426	0.028	12.757	***
TE	→	TPS	0.074	0.094	0.022	3.381	***

teacher efficacy (TE) (β=0.426, p<0.001) and TPS (β=0.585, p<0.001). TE further positively affects TPS (r=0.094, p<0.001), enabling subsequent mediation analysis.

PIL affects TPS through three paths:

Path 1 (indirect): PIL → LMX → TPS

Path 2 (indirect): PIL → LMX → TE → TPS

Path 3 (direct): PIL → TPS

Two additional mediating paths exist:

Path 4: PIL → LMX → TE

Path 5: LMX → TE → TPS

Bootstrapping analysis (n=5000) confirmed all mediation effects (**Table 5**). Path 1 showed a significant indirect effect (0.472, 95% CI=[0.317,0.612]), accounting for 71.19% of the total effect, supporting H2 (LMX mediation). Path 2 also showed significance (0.032, 95% CI=[0.013,0.054]), confirming sequential mediation by LMX and TE, supporting H5.

Path 4 was significant (0.345, 95% CI=[0.294,0.396]), supporting H3 (LMX mediates PIL → TE). Path 5 was significant (0.04, 95% CI=[0.016,0.066]), supporting H4 (TE mediates LMX → TPS).

Using bias-corrected Bootstrap tests (5000 samples, 95% CI), we examined differences among the paths through which principal-inclusive leadership affects teacher psychological safety. As shown in **Table 6**, all contrasts are significant, as none of the confidence intervals include zero.

Contrast 1 indicates that the effect of Path 1 is significantly greater than that of Path 2, which in turn is greater than Path 3. Contrast 2 confirms that Path 1 has a significantly stronger effect than Path 3. Overall, among the three paths, Path 1 demonstrates the largest effect.

5. Discussion and Implications

In Chinese kindergartens, principals' inclusive leadership—marked by openness, respect, and support—significantly enhances teacher psychological safety by fostering a secure work environment[8].

Table 5. Bootstrap analysis of the mediating model

	Path	Std. Point Estimation	SE	Bias-corrected 95%CI			Effect Size (%)	Hypothesis
				Lower	Upper	P		
1	PIL→LMX→TPS	0.472	0.076	0.317	0.612	***	71.19%	Support H2
2	PIL→LMX→TE→TPS	0.032	0.01	0.013	0.054	***	4.83%	Support H5
3	Direct effect(PIL→TIB)	0.159	0.086	0.003	0.336	*	23.98%	Support H1
—	Indirect effect(PIL→TIB)	0.504	0.076	0.348	0.644	***	76.02%	
—	Total effect((PIL→TIB)	0.663	0.025	0.611	0.71	***	——	
4	PIL→LMX→TE	0.345	0.026	0.294	0.396	***	——	Support H3
5	LMX→TE→TPS	0.04	0.013	0.016	0.066	***	——	Support H4

Note.PIL=Principal inclusive leadership;LMX=Leade-member exchange;TE=Teacher efficacy;TPS=Teacher psychosocial safety.*p<0.05，**p<0.01，***p<0.001.n=1020Teachers

Table 6. Summary of hypothesis path comparison results

Hypothesis Path	Std. Point Estimation	SE	Bias-corrected 95%CI		
			Lower	Upper	P
Contrast 1 (Path 1-Path 2)	0.44	0.078	0.284	0.584	***
Contrast 2 (Path 1-Path 3)	0.472	0.076	0.317	0.612	***
Contrast 3(Path 2-Path 3)	0.032	0.01	0.013	0.054	***

Note.*p<0.05，**p<0.01，***p<0.001.n=1020 teachers

This relationship is mediated by leader-member exchange (LMX). Inclusive leadership builds high-quality LMX, characterized by trust and support, which makes teachers feel safer to take risks [9]. Furthermore, LMX mediates the link between inclusive leadership and teacher efficacy, as supportive leader behaviors enhance teachers' professional confidence and perceived competence, aligning with demand-control theory.

Teacher efficacy, in turn, mediates between LMX and psychological safety. High-efficacy teachers experience greater autonomy, optimism, and positive affect, which strengthen their sense of psychological safety.

Overall, inclusive leadership improves psychological safety through a sequential pathway: it enhances LMX, which boosts teacher efficacy, and thereby elevates psychological safety. This chain aligns with findings that leadership builds trust, increases efficacy, and ultimately strengthens psychological safety and performance.

5.1. Theoretical Implications

This study contributes to the understanding of psychological safety among kindergarten teachers by introducing a model in which inclusive leadership influences psychological safety through leader-member exchange and teacher efficacy.

The findings align with international research, highlighting the broad relevance of inclusive leadership. Within the Chinese kindergarten context—where teacher autonomy is often limited—inclusive leadership serves as a key approach. It promotes diversity and autonomy, strengthens support, enhances psychological safety, and encourages innovative and engaged teaching.

Furthermore, this research not only supports leader-member exchange and job demand-control theories but also applies job demand-control theory in a novel way to examine the link between inclusive leadership and psychological safety.

5.2. Practical Implications

Our findings offer guidance for improving psychological safety among early childhood educators. Within Chinese kindergartens, collectivist and obedience-oriented norms often limit teacher autonomy and commitment, hindering innovation. Enhancing psychological safety is therefore crucial. This study advocates for interventions that foster a fearless, supportive environment conducive to teacher innovation and learning.

Organizational support is key to helping teachers adopt new methods. Education authorities should train principals in inclusive leadership to improve leader-member exchanges and autonomy. Leadership selection should prioritize inclusive capabilities, and training programs must incorporate these skills.

Kindergarten principals should actively engage with teachers, understand their needs, and provide systematic training and incentives to build confidence and competence. Beyond supervision, principals must collaborate and foster open communication where diverse ideas are valued—key to enhancing productivity and psychological safety.

Finally, interventions should be strategically designed through a nested structure to effectively reach classroom teachers.

5.3. Limitations and Directions for Future Research

The sample for this study is drawn from kindergarten teachers in Guangxi, with data being collected concurrently without involving reports from principals. Future research should expand the scope of the sample to improve its representativeness. A more diverse array of data collection methods could be used, such as data from principals and teachers, time-series data, and experimental data.

Disclosure statement

The author declares no conflict of interest.

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