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The influence of transformational leadership on academic achievement and psychological well-being among left-behind children in China

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ABSTRACT

This study examines the impact of transformational leadership on academic achievement and psychological well-being among left-behind children (LBC) in rural China. A quantitative design was applied with data collected from 90 teachers and 60 students in two rural schools in Guangxi Province, both with high enrollments of LBC. Measures included adapted versions of the Multifactor Leadership Questionnaire (MLQ), Academic Engagement Scale, and Strengths and Difficulties Questionnaire (SDQ). Spearman's correlation and regression analyses revealed strong, positive, and statistically significant relationships between transformational leadership and both academic achievement and psychological well-being. Transformational leadership explained over 90% of the variance in academic performance and substantial variance in psychological well-being across both teacher and student perspectives. These results indicate that transformational leadership can simultaneously strengthen cognitive and emotional outcomes for at-risk students. The study recommends leadership development in rural China that emphasizes emotional intelligence, relational trust, and the creation of supportive school cultures. This study provides implications for school leaders as well as for rural-urban migration in China and education policymakers. The novelty of this article lies in the fact that it addresses the gap in existing literature by exploring the impact of entrepreneurship education on university students' entrepreneurial competence in the context of Chinese higher education.

Contribution/Originality: This study is one of the few that investigates the impact of entrepreneurship education on university students' entrepreneurial competence, addressing a notable gap in the existing literature within the context of Chinese higher education.

1. INTRODUCTION

China's large-scale rural-to-urban migration has resulted in millions of "left-behind children" (LBC), who remain in rural areas without one or both parents due to migration (Lyu, Mei, Yan, Wang, & Duan, 2024; Wang, 2023). These children are typically cared for by extended family members, but such arrangements often fail to meet their developmental needs. Parental absence has been consistently linked to weaker attachment bonds, lower self-esteem, and reduced academic motivation (Liu et al., 2023; Wen et al., 2021).

Rural schools serving LBC face additional challenges, including shortages of trained teachers and limited capacity to address socio-emotional instability (Siqi & Alias, 2025). In this context, school leadership plays a pivotal role. Transformational leadership (Bass & Avolio, 1995; Burns, 1978) emphasizes vision, relational trust, intellectual

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stimulation, and individual consideration, making it a promising approach for supporting students' learning and emotional needs simultaneously (Gengatharan et al., 2025; Magaña-Medina, Aquino-Zúñiga, Valdés-Cuervo, & Parra-Pérez, 2021).

Prior studies show that leadership behaviors are associated with improved student achievement and well-being (Klik, Cárdenas, & Reynolds, 2023; Raman, Thannimalai, & Jalapang, 2022). However, these two domains are typically examined in isolation (Zhang et al., 2022; Zhu & Caliskan, 2021). Moreover, leadership research in China has often emphasized bureaucratic models (Lin, Courtney, McKay, & Armstrong, 2023) with limited attention to innovative and student-centered approaches such as transformational leadership (Hussain, Nazari, & Husin, 2024).

This study fills these gaps by investigating whether transformational leadership influences both academic achievement and psychological well-being among LBC in rural China. Drawing on Transformational Leadership Theory (Bass & Avolio, 1995) and Bronfenbrenner (1979) Ecological Systems Theory (1979), it positions school leadership as a microsystem intervention capable of compensating for disrupted home environments.

The objective of this study is to determine the impact of transformational leadership on academic achievement and psychological well-being of left-behind children in China.

1. To examine the relationship between transformational leadership and the academic achievement of left-behind children.
2. To examine the relationship between transformational leadership and the psychological well-being of left-behind children.

2. LITERATURE REVIEW

2.1. Transformational Leadership and Academic Achievement of LBC

Academic underachievement among LBC has been consistently reported, often resulting not from poverty alone but from disrupted developmental ecologies, such as weakened home–school connections (Jackson, 2022; Li, Xu, & Luo, 2025). Caregivers, often elderly and with limited literacy, struggle to provide academic scaffolding, which reduces motivation and lowers self-expectations (Buchmann, Grütter, & Zuffianò, 2022; Makunga, Schenck, Roman, & Spolander, 2017).

Schools can, however, serve as compensatory environments. Transformational leadership (Bass & Avolio, 1995), built on vision, trust, intellectual stimulation, and individualized consideration, has been shown to enhance teacher performance, raise academic expectations, and cultivate climates conducive to learning (Egerău, 2025). From an ecological perspective (Bronfenbrenner, 1979), TL helps rebuild disrupted microsystems by fostering collaborative teacher-student relationships and reinforcing achievement norms. For LBC, such climates may substitute for absent parental support and stimulate persistence in schoolwork. Hence, this study has formulated the following hypothesis to answer the first research question.

H_1: There is a significant relationship between transformational leadership and academic achievement among left-behind children in China.

2.2. Transformational Leadership and Psychological Well-being of LBC

LBC are more vulnerable to depression, anxiety, and low self-esteem due to disrupted attachment bonds and long-term parental absence (Bowlby, 1997; Gautam et al., 2024; Xu et al., 2025). Rural schools often lack structured mental health services, leaving school leadership as a primary protective factor (Ellis & Johnston, 2024).

Transformational leadership may directly enhance emotional security. Individualized consideration allows leaders to identify students' unique needs, while inspirational motivation instills hope and perseverance (Al Khatib, 2024; Huang et al., 2022). By cultivating climates of empathy and relational trust, TL provides a psychosocial buffer, enabling LBC to develop resilience and self-esteem (Ballin, 2023; Greig, Bailey, Abbott, & Brunzell, 2021). Empirical evidence in disadvantaged school settings confirms that TL is associated with reduced emotional distress and greater

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well-being (Assefa & Mujtaba, 2025). Hence, this study has formulated below hypothesis to answer research question 2.

H_2: There is a significant relationship between transformational leadership and psychological well-being among left-behind children in China.

2.3. Theoretical Framework

Transformational Leadership Theory (Bass & Avolio, 1995; Burns, 1978) highlights leadership behaviours that inspire and uplift followers, while Ecological Systems Theory (Bronfenbrenner, 1979) situates child development within layered environments. For LBC, the disruption of parental presence at the microsystem level threatens both academic and emotional development. Transformational leadership practices within schools can compensate by providing vision, intellectual stimulation, and supportive climates, thereby addressing both academic and emotional domains in tandem (Murphy & Zhang, 2023; Wang, Deng, & Tian, 2022).

Together, these frameworks position TL as an ecological intervention that not only enhances cognitive outcomes but also supports psychosocial resilience for LBC. This study aims to examine the relationship between transformational leadership and the academic achievement and psychological well-being of left-behind children in China.

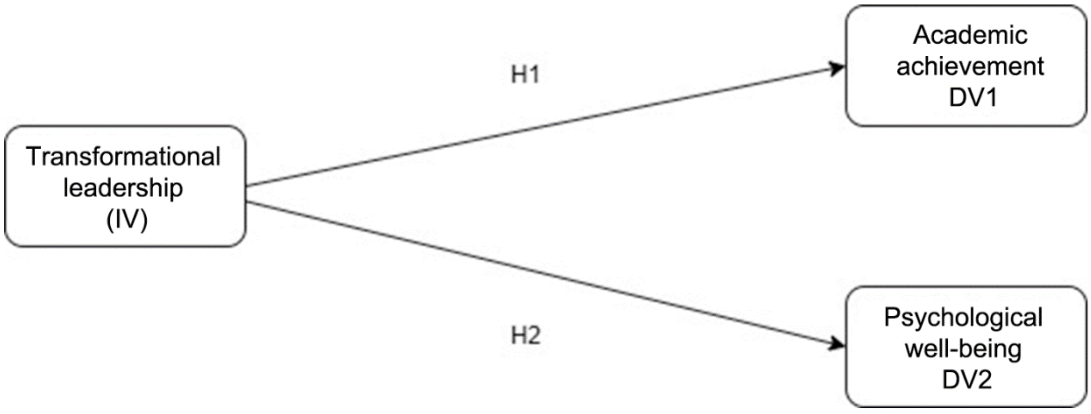

Figure 1. Conceptual framework of the study.

In Figure 1, Transformational Leadership is the independent variable (IV); Academic Achievement is DV1, and Psychological Well-Being is DV2. These variables will be discussed in the context of left-behind children in China.

3. METHODOLOGY

3.1. Research Design, Population, and Sampling

The study employed a quantitative design to examine the relationship between transformational leadership and the academic achievement and psychological well-being of left-behind children (LBC). The sample was drawn from two public schools in Guangxi Zhuang Autonomous Region: Nanning No. 27 Primary School and Wuming Experimental Middle School. These schools were purposively selected based on education bureau reports indicating that more than 50% of their student population were LBC, making them representative sites for the study.

A total of 150 participants were recruited: 90 teachers (45 from each school) and 60 students (30 from each school). This sample size exceeded the minimum requirement calculated using G*Power 3.1 (n=92 for regression with three predictors, effect size $f^2=0.15$, $\alpha=0.05$, power=0.80), ensuring robust statistical power.

Teachers represented varied demographics: 51% male and 49% female; 28% were aged 25–35, 61% aged 36–45, and 11% above 45. Teaching experience was also diverse, with 42% having less than 5 years, 36% between 5–10 years, and 22% over 10 years.

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Among students, 60% were female, with the majority (88%) aged 10–12 years across grades 4–6. Variation in parental absence was also captured: 41.7% lived without their father, 31.6% without their mother, and 26.7% without both parents for more than six months. These variations allowed the study to account for heterogeneity in both teacher and student perspectives.

3.2. Instrumentation

Two structured questionnaires (Teacher and student versions) were adapted from validated instruments.

Transformational Leadership: Items drawn from the Multifactor Leadership Questionnaire (MLQ) (Bass & Avolio, 1995).

Academic Achievement: Teacher-rated items adapted from Hattie (2008) and student self-report items adapted from the Academic Engagement Scale (Fredricks, Blumenfeld, & Paris, 2004).

Psychological Well-Being: Teacher and student versions of the Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1997).

Items were translated into Mandarin Chinese and back-translated into English by bilingual experts to ensure semantic accuracy. A panel of three educational scholars reviewed the items for content validity, confirming their appropriateness for the rural Chinese school context. Reliability analysis demonstrated excellent internal consistency (Cronbach's α ranging from 0.938 to 0.963 across scales; see Tables 1 and 2).

3.3. Statistical Analysis

Data were analyzed using SPSS Version 29.0. Descriptive statistics (means, standard deviations, frequencies) described sample characteristics. Normality checks (Shapiro–Wilk) showed most data were non-normally distributed ($p < .05$); thus, Spearman's correlation tested bivariate relationships.

To test predictive effects, simple linear regression analyses were run separately for teacher and student datasets, with transformational leadership entered as the predictor variable and academic achievement and psychological well-being as outcomes. Regression assumptions were checked: linearity and homoscedasticity were visually confirmed; multicollinearity was ruled out (VIF < 2); and independence of residuals was supported (Durbin–Watson ≈ 2). The significance threshold was set at $\alpha = .05$ for all tests.

Table 1. Reliability statistics for teacher dataset.

Variables	Cronbach's alpha	N of items
Academic achievement of LBC	0.938	6
Psychological well-being of LBC	0.942	7
Transformational leadership practices	0.949	7

Table 2. Reliability statistics for student dataset.

Variables	Cronbach's alpha	N of items
Academic achievement	0.963	6
Psychological well-being	0.954	7
Leadership practices	0.947	5

4. DATA ANALYSIS AND RESULTS

4.1. Demographic Profile

Teachers (n = 90): For the teachers' dataset, gender distribution was balanced (48.9% female, 51.1% male). Most participants were aged 36-45 years (61.1%), with 44.4% teaching at primary, 32.2% at elementary, and 23.3% at secondary levels. Half of the sample consisted of teachers who had been dealing with LBC for 4-6 years. The sample also had a significant percentage (24.42%) of participants with more than 6 years of experience in the field.

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Students (n=60): In the students' dataset, 60% were female, and the majority were aged 10-12 years (88.3%). Grade distribution was relatively even across 4th (31.7%), 5th (33.3%), and 6th (35.0%) grades. Duration without parental presence was evenly split between less than 6 months (36.7%) and 6-12 months (36.7%), with 26.6% over 12 months.

4.2. Data Analysis

4.2.1. Correlation Analysis

Since the data was non-normally distributed for both datasets, Spearman's correlation was used to assess the monotonic relationships among transformational leadership, academic achievement, and psychological well-being for both datasets.

Table 3. Spearman's correlation (Teachers).

			Academic achievement of LBC	Psychological well-being of LBC	Transformational leadership practices
Spearman's rho	Academic achievement of LBC	Correlation coefficient	1.000	0.331**	0.691**
		Sig. (2-tailed)	.	0.001	<0.001
		N	90	90	90
	Psychological well-being of LBC	Correlation coefficient	0.331**	1.000	0.323**
		Sig. (2-tailed)	0.001	.	0.002
		N	90	90	90
	Transformational leadership practices	Correlation coefficient	0.691**	0.323**	1.000
		Sig. (2-tailed)	<.001	0.002	.
		N	90	90	90

Note: **. Correlation is significant at the 0.01 level (2-tailed).

Table 3 shows Spearman's correlation results for the teacher dataset, confirming all relationships to be statistically significant and positive. Specifically, transformational leadership practices had a strong positive correlation with academic achievement ($\rho = 0.691$, $p < .001$), and a moderate positive correlation with psychological well-being ($\rho = 0.323$, $p = .002$). The correlation between academic achievement and psychological well-being was also moderate ($\rho = .331$, $p = .001$). These results show that supportive leadership practices are linked to higher academic achievement and better psychological health, thus confirming both H1 and H2.

Table 4. Spearman's correlation (Students).

			Academic achievement	Psychological well-being	Perceived Leadership impact
Spearman's rho	Academic achievement	Correlation coefficient	1.000	0.715**	0.772**
		Sig. (2-tailed)	.	<0.001	<0.001
		N	60	60	60
	Psychological well-being	Correlation coefficient	0.715**	1.000	0.751**
		Sig. (2-tailed)	<0.001	.	<0.001
		N	60	60	60
	Leadership practices	Correlation coefficient	0.772**	0.751**	1.000
		Sig. (2-tailed)	<0.001	<0.001	.
		N	60	60	60

Note: **. Correlation is significant at the 0.01 level (2-tailed).

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Table 4 describes Spearman's correlation results for the student dataset, showing all correlations to be strong, positive, and statistically significant ($p < .001$). A very strong correlation was found between leadership practices and academic achievement ($\rho = 0.772$, $p < 0.001$), suggesting that students who viewed their school leaders positively also reported higher academic performance. Similarly, a strong positive relationship was observed between leadership and psychological well-being ($\rho = 0.751$, $p < 0.001$), indicating that supportive leadership practices were linked to better emotional health. In addition, academic achievement and psychological well-being were strongly correlated ($\rho = 0.715$, $p < 0.001$), underscoring the interconnectedness of students' academic and emotional development. This finding confirms the hypotheses proposed in the study.

4.2.2. Regression Analysis

Separate simple linear regression analyses were conducted for both datasets to examine whether transformational leadership practices significantly impact predicted academic achievement and psychological well-being among left-behind children.

4.2.2.1. Teachers Dataset

4.2.2.1.1. DV1: Academic Achievement of LBC

Simple linear regression was conducted for DV1 to examine whether it is significantly predicted by transformational leadership practices.

Table 5. Regression model summary predicting academic achievement of left-Behind children.

Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.956[a]	0.914	0.913	2.03963

Note: a. Predictors: (Constant), transformational leadership practices.

As indicated by Table 5, there is a very strong relationship between the two variables, with $R^2 = 0.914$, meaning that approximately 91.4% of the variance in academic achievement was explained by transformational leadership.

Table 6. ANOVA[a] results for the regression model predicting academic achievement of left-behind children.

Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	3912.369	1	3912.369	940.456	<0.001[b]
	Residual	366.087	88	4.160		
	Total	4278.456	89			

Note: a. Dependent variable: Academic achievement of LBC.
b. Predictors: (Constant), transformational leadership practices.

The ANOVA results (Table 6) confirmed that the regression model was statistically significant, $F = 940.46$, $p < 0.001$.

Table 7. Regression coefficients[a] for transformational leadership predicting academic achievement of left-behind children.

Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. error	Beta		
1	(Constant)	1.339	0.617		2.170	0.033
	Transformational leadership practices	0.788	0.026	0.956	30.667	<0.001

Note: a. Dependent Variable: Academic Achievement of LBC.

The standardized beta coefficient was 0.956 (Table 7), indicating a very strong positive effect of transformational leadership on academic achievement. The unstandardized coefficient (B = 0.788) suggests that for every one-point

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increase in leadership score, academic achievement increased by about 0.79 points. This relationship was statistically significant ($p < .001$).

These findings provide strong support for the hypothesis that transformational leadership contributes meaningfully to the academic success of left-behind children in rural schools.

4.2.2.1.2. DV2: Psychological Well-Being of LBC

Simple linear regression was then conducted for DV2 to examine whether it is significantly predicted by transformational leadership practices.

Table 8. Regression model summary predicting psychological well-Being of left-behind children.

Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.454[a]	0.206	0.197	2.17947

Note: a. Predictors: (Constant), transformational leadership practices.

The model was statistically significant and explained 20.6% of the variance in psychological well-being ($R^2 = 0.206$), as shown in Table 8.

Table 9. ANOVA[a] results for the regression model predicting psychological well-Being of Left-Behind children.

Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	108.392	1	108.392	22.819	<0.001[b]
	Residual	418.008	88	4.750		
	Total	526.400	89			

Note: a. Dependent variable: Psychological well-being of LBC.
b. Predictors: (Constant), transformational leadership practices.

The ANOVA results (Table 9) confirmed that the regression model was statistically significant, $F = 22.82$, $p < 0.001$.

Table 10. Regression coefficients[a] for transformational leadership predicting psychological well-Being of Left-Behind children.

Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	18.247	0.659		27.673	<0.001
	Transformational leadership practices	0.131	0.027	0.454	4.777	<0.001

Note: a. Dependent Variable: Psychological Well-Being of LBC.

The results (Table 10) revealed a moderate, positive relationship, with a standardized beta coefficient of 0.454, indicating that higher levels of transformational leadership were associated with higher psychological well-being among students. The unstandardized coefficient (B = 0.131) suggests that for every one-point increase in leadership score, psychological well-being increased by approximately 0.13 points, and this effect was statistically significant ($p < 0.001$). These findings support the hypothesis that transformational leadership contributes positively to the emotional well-being of left-behind children in the rural school context.

4.2.2.2. Student Dataset

4.2.2.2.1. DV1: Academic Achievement

Simple linear regression was conducted for DV1 to examine whether it is significantly predicted by leadership practices.

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Table 11. Regression model summary predicting academic achievement.

Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.947[a]	0.897	0.895	2.66621

Note: a. Predictors: (Constant), leadership practices.

As indicated by Table 11, there is a very strong relationship between the two variables, with $R^2 = 0.897$, meaning that approximately 89.7% of the variance in academic achievement was explained by transformational leadership.

Table 12. ANOVA[a] results for the regression model predicting academic achievement.

Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	3572.679	1	3572.679	502.579	<.001[b]
	Residual	412.304	58	7.109		
	Total	3984.983	59			

Note: a. Dependent variable: Academic achievement.
b. Predictors: (Constant), leadership practices.

The ANOVA results (Table 12) confirmed that the regression model was highly statistically significant with $F = 502.579$ and $p < 0.001$.

Table 13. Coefficients[a].

Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-0.655	0.860		-0.761	0.449
	Leadership practices	1.264	0.056	0.947	22.418	<0.001

Note: a. Dependent variable: Academic achievement

The standardized beta coefficient was 0.947 (Table 13), indicating a very strong positive effect of leadership on academic achievement. The unstandardized coefficient (B = 1.264) suggests that for every one-point increase in leadership practices, academic achievement increases by approximately 1.26 points. This result was statistically significant ($p < .001$).

These findings indicate that students who perceive their school leaders as supportive and effective tend to perform significantly better academically.

4.2.2.2.2. DV2: Psychological Well-Being

Simple linear regression was then conducted for DV2 to examine whether it is significantly predicted by leadership practices.

Table 14. Regression model summary predicting psychological Well-Being.

Model	R	R Square	Adjusted R square	Std. error of the estimate
1	0.852[a]	0.726	0.721	2.17431

Note: a. Predictors: (Constant), Leadership Practices.

The model was statistically significant and explained approximately 72.6% of the variance in LBC's psychological well-being ($R^2 = 0.726$), as shown in Table 14.

Table 15. ANOVA[a] results for the regression model predicting psychological Well-Being.

Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	726.647	1	726.647	153.702	<0.001[b]
	Residual	274.203	58	4.728		
	Total	1000.850	59			

Note: a. Dependent variable: Psychological well-being.
b. Predictors: (Constant), leadership practices.

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The ANOVA results (Table 15) confirmed that the regression model was highly statistically significant, $F = 153.70$, $p < 0.001$.

Table 16. Regression coefficients[a] for leadership practices predicting psychological Well-Being.

Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. error	Beta		
1	(Constant)	12.980	0.701		18.505	<0.001
	Leadership practices	0.570	0.046	0.852	12.398	<0.001

Note: a. Dependent variable: Psychological well-being.

The standardized beta coefficient was 0.852, as shown by Table 16, suggesting a strong, positive effect of leadership on psychological well-being. The unstandardized coefficient (B = 0.570) indicates that for every one-point increase in leadership practices, the psychological well-being of LBC increased by approximately 0.57 points. This relationship was statistically significant ($p < 0.001$).

These results highlight the important role that students' perceptions of school leadership play in supporting their emotional and psychological health.

5. DISCUSSION

This study aimed to examine the link between transformational leadership, academic achievement, and psychological well-being in left-behind children in rural China. The results yielded robust support, from both teacher and student data, for the hypotheses proposed, thus providing novel evidence in a less-researched population.

5.1. Transformational Leadership and Academic Achievement

The study evidenced that transformational leadership was strongly, positively, and significantly associated with academic achievement in both teachers' and students' datasets. Importantly, transformational leadership was a remarkably strong predictor of academic achievement when results were obtained directly from teachers ($R^2 = 91.4\%$). This result is at the heart of several previous studies that demonstrated that TL resulted in higher levels of academic engagement and performance of students through inspiring a shared vision, setting high standards and expectations, and promoting a supportive climate (Le, Hamid, & Mansor, 2025; Nawaz, Aihua, Joher, & Khan, 2022). Likewise, this result was consistent with Murwanto (2024), who found that inclusive leadership bettered educational outcomes by reducing the impact of socio-economic disadvantages on learning. Similarly, Maisyaroh et al. (2024) and Yorman (2023) identified that leadership, which is vision-driven and based on support, creates instructional coherence and academic press, both necessary for effective student learning.

In illustrating the effect with LBC, this study extends previous research that has focused primarily on urban or general student populations (Klik et al., 2023; Raman et al., 2022). It also supports (Bronfenbrenner, 1979) the ecological perspective that interventions in the school microsystem can compensate for shortfalls at home. Whereas in studies of myriad situations, leadership effects were weakened in resource-disadvantaged contexts (Lin et al., 2023), and others have examined general students (Tan, Dimmock, & Walker, 2024), the present results suggest that TL can still have sizable effects even with infrastructure shortcomings. This is likely because TL's elements, especially those associated with relational trust and intellectual stimulation, need not rely on material resources.

5.2. Transformational Leadership and Psychological Well-Being

The analyses revealed that transformational leadership was positively related to psychological well-being in both datasets, offering moderate predictive power in the teacher dataset (R = 20.6%) and strong predictive power in the student dataset (R = 72.6%). These observations strengthen a body of work that has evidenced that leaders who

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exercise individualized consideration and foster a supportive school climate promote students' emotional resilience and school connectedness.

The stronger link for student self-reports in comparison to teacher reports indicates that emotional benefits might be more discernible to children themselves. These findings are consistent with the view of Assefa and Mujtaba (2025) that transformational leaders enhance student well-being as they nurture an emotionally caring school environment and demonstrate empathy. This finding also relates to those of Campos-Gil, Ortega-Andeane, and Vargas (2020) that school is an intrinsic microsystem that compensates for the weaknesses of the most proximal environment, home, which is most fragile for children with poor familial support. By validating such a link among LBC, this study responds to Langlais, Chacón, and Brazer (2024) call to fill in gaps wherein leadership effects on emotional health were hitherto inadequate in rural Chinese contexts.

5.3. Academic and Emotional Integration

The high positive correlations between academic attainment and psychological well-being in both the student and teacher data support the integration of cognitive and emotional domains highlighted in previous literature (Greig et al., 2021; U.S. Department of Education Office of Special Education and Rehabilitative Services, 2021). Young people who feel emotionally secure and supported will likely be more motivated to learn, to persevere in the face of difficulty and to achieve academically (Davies, 2025). Therefore, academic success will increase self-esteem and a sense of competence, which, in turn, enhances mental health and well-being.

Such a reciprocal relation is consistent with Bronfenbrenner (1979) ecological perspective, whereby development is an outcome of multidirectional transactions between nested systems. For LBC, the lack of parental presence in the microsystem reduces both academic and emotional resources; nevertheless, an encouraging school environment can enhance both in tandem (Mao, Zang, & Zhang, 2020). Transformational leaders, through inspirational motivation and individualized consideration, build the kind of school culture that raises academic expectations, while accommodating the emotional needs around, so that students may thrive academically and emotionally (Cherry, 2026; Murphy & Zhang, 2023).

6. IMPLICATIONS

6.1. Theoretical Implications

This study advances Transformational Leadership Theory by demonstrating its applicability to rural, resource-poor settings with socially disadvantaged populations. In addition, the findings provide strong support for Bronfenbrenner's Ecological Systems Theory by showing how micro-systems leadership can compensate for deficiencies in the home environment for LBC children. These findings have evidenced gains in both academic achievement and psychological well-being from TL and thus call for the delineation of a more holistic approach to leadership research that integrates understanding in both the cognitive and emotional domains.

6.2. Practical Implications

For school leaders, adopting TL behaviors, particularly in terms of inspirational motivation, intellectual stimulation, and individualized consideration, can provide a low-cost, high-impact option to improve both affective and academic outcomes.

Such behaviors help teachers flourish within a positive, charismatic leadership culture that enhances their capacity to meet the complex needs of LBC. Policy-makers involved in training school leaders should introduce TL competencies into leadership professional development for school heads in rural areas to address and enhance leaders' abilities to foster both affective and academic outcomes.

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6.3. Policy Implications

Given the enormity of rural-urban migration in China, education policy should explicitly acknowledge schools as key sites of intervention for LBC. Policies could stipulate socio-emotional learning programs, provide training on TL practices, and distribute resources to rural schools with large LBC enrollments. Developing leadership standards that reflect TL principles could embed and institutionalize such practices in a way that is responsive to achievement and well-being objectives.

7. LIMITATIONS AND RECOMMENDATIONS

7.1. Limitations

First, this study was a cross-sectional design, meaning it only examined relationships and did not allow us to reach causal conclusions. Second, it used self-report scales that might have introduced social desirability bias since participants might have responded to the scales according to ideal behaviors. In particular, this was a greater concern for students, who might have shown deference in responding to leadership perceptions and their own well-being. Third, the student sample was recruited from two rural schools that were under the same educational bureau in Guangxi. The results might not generalize to either other provinces or other educational settings. Finally, only TL was included in the model as an independent variable. Although other teacher-level factors, including teacher quality, peer relationships, and community social relationships, might have influenced learning outcomes, these were not included.

7.2. Suggestions for Future Research

Future research should use a longitudinal approach to explore the causality of TL, LBC, and students' well-being. Future research should also take multiple samples from different provinces and apply mixed methods to gain a richer understanding of leadership dynamics in schools. In addition, direct comparisons of TL with different leadership models such as distributed leadership and servant leadership may help identify which leadership approach works best for LBC. Finally, given that TL may improve students' achievement and well-being through different causal mechanisms, other mediating variables, such as the teacher–student relationship or teachers' trust in students, should be included to explain why TL affects these two aspects simultaneously.

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