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**MEDIATING EFFECT OF TEACHER SUPPORT AND  
PEER RELATIONSHIP AND MODERATING EFFECT  
OF SELF-ESTEEM ON THE RELATIONSHIP  
BETWEEN PERCEIVED STRESS AND  
SCHOOL ADJUSTMENT AMONG  
BOARDING STUDENTS OF  
RURAL MIDDLE  
SCHOOLS IN  
CHINA**



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**JIANG YUQIN**

**SULTAN IDRIS EDUCATION UNIVERSITY**

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THESIS PRESENTED TO QUALIFY FOR A DOCTOR OF PHILOSOPHY

FACULTY OF HUMAN DEVELOPMENT  
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4/8/2025

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## ABSTRACT

This study aims to investigate the connections among perceived stress, teacher support, peer relationships, self-esteem, and school adjustment. This research employs a quantitative approach involving 818 boarding students from China selected through Multi Stage Cluster Sampling. Instruments for data collection encompass the Chinese Perceived Stress Scale (CPSS), Classroom Environment Scale for Primary and Secondary Schools, Friendship Quality Questionnaire, Self-Esteem Scale, and School Attitudes Questionnaire. Analysis was conducted using SPSS software, including T-tests and ANOVA, to examine differences in perceived stress and school adjustment across various demographic groups. Smart-PLS structural equation modeling was employed to explore the relationships among the variables. The results indicate that gender has negligible effects on perceived stress and school adjustment, and that ninth-grade boarding students experience elevated levels of perceived stress and lower school adjustment compared to seventh and eighth graders. Nevertheless, teacher support and peer relationships emerge as pivotal mediators between perceived stress and school adjustment, with self-esteem serving as a moderator in this relationship. These findings illuminate the nuanced dynamics shaping school adjustment among boarding students in Chinese middle schools. The study underscores the importance of tailored interventions aimed at enhancing teacher support, fostering positive peer relationships, bolstering self-esteem, and considering demographic factors to alleviate perceived stress and improve school adjustment outcomes for this student demographic. The implications extend to policy recommendations geared towards establishing a supportive educational environment for the well-being and academic achievement of boarding students by involving both institutional and governmental sectors.





**KESAN PERANTARAAN SOKONGAN GURU DAN HUBUNGAN RAKAN  
SEBAYA SERTA KESAN MODERASI KESEDARAN DIRI TERHADAP  
HUBUNGAN ANTARA STRESS YANG DIRASAI DAN PENYESUAIAN  
SEKOLAH DALAM KALANGAN PELAJAR  
SEKOLAH MENENGAH LUAR BANDAR  
DI CHINA**

**ABSTRAK**

Kajian ini bertujuan untuk menyiasat hubungan antara stres yang dirasakan, sokongan guru, hubungan rakan sebaya, harga diri, dan penyesuaian sekolah. Kajian ini menggunakan pendekatan kuantitatif yang melibatkan 818 pelajar pondok dari China yang dipilih melalui Pensampelan Kluster Berperingkat. Instrumen untuk pengumpulan data merangkumi Skala Stres yang Dirasai Cina (CPSS), Skala Persekitaran Kelas untuk Sekolah Rendah dan Menengah, Soal Selidik Kualiti Persahabatan, Skala Harga Diri, dan Soal Selidik Sikap terhadap Sekolah. Analisis dilakukan menggunakan perisian SPSS, termasuk Ujian T dan ANOVA, untuk memeriksa perbezaan dalam stres yang dirasakan dan penyesuaian sekolah di kalangan kumpulan demografik yang berbeza. Pemodelan persamaan struktur Smart-PLS digunakan untuk meneroka hubungan antara pemboleh ubah. Hasil kajian menunjukkan bahawa jantina mempunyai kesan yang tidak signifikan terhadap stres yang dirasakan dan penyesuaian sekolah, dan bahawa pelajar pondok tingkatan sembilan mengalami tahap stres yang lebih tinggi dan penyesuaian sekolah yang lebih rendah berbanding dengan pelajar tingkatan tujuh dan lapan. Walau bagaimanapun, sokongan guru dan hubungan rakan sebaya muncul sebagai mediator penting antara stres yang dirasakan dan penyesuaian sekolah, dengan harga diri berfungsi sebagai moderator dalam hubungan ini. Penemuan ini menjelaskan dinamik yang lebih mendalam yang membentuk penyesuaian sekolah di kalangan pelajar pondok di sekolah menengah di China. Kajian ini menekankan kepentingan intervensi yang disesuaikan bertujuan untuk meningkatkan sokongan guru, memupuk hubungan rakan sebaya yang positif, memperkukuh harga diri, dan mempertimbangkan faktor demografik untuk mengurangkan stres yang dirasakan dan meningkatkan hasil penyesuaian sekolah bagi kumpulan pelajar ini. Implikasi kajian ini merangkumi cadangan dasar yang bertujuan untuk mewujudkan persekitaran pendidikan yang menyokong kesejahteraan dan pencapaian akademik pelajar pondok dengan melibatkan kedua-dua sektor institusi dan kerajaan.



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## LIST OF ABBREVIATIONS

ABSA	Australian Boarding Schools Association
AVE	Average Variance Extracted
CA	Cronbach's alpha
CES	Classroom Environment Scale
CPSS	Chinese Perceived Stress Scale
CR	Composite Reliability
DV	Dependent Variable
EDA	Exploratory data analysis
EST	Ecological System Theory
FQQ	Friendship Quality Scale
HTMT	Heterotrait-monotrait Ratio of Correlations
ICEQ	Individualized Classroom Environment Questionnaire
ISC	Association of Independent Schools
IV	Independent Variable
LEI	Learning Environment Inventory
MCI	My Class Inventory
MOE of PRC	The Ministry of Education of the People's Republic of China
PR	Peer Relationship
PRC	Central People's Government of the People's Republic of China
PS	Perceived Stress





PSS	Perceived Stress Scale
SA	School Adjustment
SAS	Statistical Analysis System
SCL	Mental Symptom Checklist
SDT	Self-Determination Theory
SE	Self-Esteem
SEM	Structural Equation Modeling
SLEI	Science Laboratory Environment Inventory
SPSS	Statistical Package for Social Sciences
TS	Teacher Support
UK	United Kingdom
VIF	Variance Inflation Factor





## LIST OF APPENDICES

- A Questionnaire
- B Cross-Loadings





## CHAPTER 1

### INTRODUCTION



This chapter provides an overview of the study, including the research background, problem statement, research objectives, and research questions. It also outlines the research hypotheses and defines key terms conceptually and operationally. Additionally, the chapter discusses the significance of the study in both theoretical and practical contexts and addresses its limitations.

#### 1.2 Background of the Study

There are a large number of boarding students in the world. Boarding students are primarily enrolled in boarding schools. There are approximately 178 boarding schools





in Australia (Mander & Lester, 2017), 470 in the United Kingdom (Martin et al., 2016), and 340 in North America (Martin et al., 2016). China also hosts a significant number of boarding schools and boarders. According to the data from The Ministry of Education of China, in the stage of compulsory education, China has a sizeable rural boarding group, and the boarding rate in rural areas is rising yearly.

Regarding the boarding scale, 26.082 million boarders in rural areas received compulsory education in 2016, accounting for 84.80 percent of the total number of boarders in China (Zhang & Qin, 2019). Among them, 9.4 million rural primary school students were boarders, representing 88.61 percent of the national total. There were 16.7 million rural middle school students who were boarders, comprising 82.78 percent of the country's total (Zhang & Qin, 2019). From 2006 to 2016, the boarding rate of compulsory education in rural areas rose from 19.67 percent to 27.50 percent, marking a 7.83 percentage point increase. The boarding rate of rural primary schools increased from 7.36 percent to 14.18 percent, almost doubling, while the boarding rate of rural middle schools rose from 42.07 percent to 58.65 percent, marking a 16.58 percentage point rise. According to data from a 2011 survey, boarding schools have emerged as the predominant form of education at the rural middle school level in China. The overall boarding rate of rural middle school students exceeded the national average of 52.88 percent in 2011. In total, 16 provinces recorded boarding rates above 50 percent, six provinces exceeded 60%, and Guangxi reached 88.03 percent. In terms of geography, the 12 western provinces and autonomous regions recorded boarding rates substantially above the national average. In 2011, the boarding rate for compulsory education students in western rural areas stood at 34.30 percent, with middle school students reaching 62.36 percent and primary school students at 19.65 percent (Dong, 2013).





Why are there so many boarding students in China? Beginning in the mid-to-late 20th century, with the implementation of the family planning policy, the rural school-age population steadily declined, while urbanization increased (Attane, 2002). Insufficient enrollment in primary and secondary schools, scattered school locations, small-scale operations, and declining quality became increasingly apparent. However, due to the scattered living characteristics of China's rural population, problems related to students' schooling and safety emerged as major barriers to the advancement of compulsory education. In addition, the total number of primary and secondary school students in China's rural areas is declining rapidly, leading to elevated costs associated with sparsely distributed students, which in turn hindered the allocation of high-quality educational resources and directly impacted teaching conditions and education quality in rural compulsory education.



In response to these challenges, the Chinese government implemented the "School Consolidation Policy" (Zhao et al., 2024). This initiative seeks to enhance rural educational resources by closing smaller, underfunded schools and consolidating them into larger, centrally located institutions within townships and county seats. The primary goal is to deliver improved educational facilities and greater access to resources for rural students by consolidating them into better-equipped institutions. Rural boarding schools now play a vital role in bridging public services between urban and rural communities. This approach is particularly significant in addressing the challenges of 'distance to school' and 'care for left-behind children' in rural Chinese education (Xue & Li, 2022).





In China, the education system adheres to a nine-year compulsory education framework consisting of six years of primary education and three years of middle school (Li & Xue, 2021). During this compulsory phase, many students, especially in rural areas, are enrolled in boarding schools because of the limited proximity of local schools. Although boarding schools expand educational access for students in remote areas, they introduce unique challenges, particularly regarding students' psychological health (Tang et al., 2020).

Boarding students, especially those in middle schools, commonly face elevated levels of stress due to early separation from their families. Lacking daily emotional support from their parents and familiar home surroundings, these students are more vulnerable to loneliness, anxiety, and homesickness (Po Yang, 2022). The regimented structure of boarding school life, coupled with academic demands, can intensify stress and hinder school adjustment. Social dynamics within boarding schools exacerbate these adjustment challenges, as students must navigate peer interactions and contend with feelings of isolation or competition. Psychological issues—including perceived stress, diminished self-esteem, and mental health difficulties—are prevalent among Chinese boarding students, particularly as they transition through different grades in middle school (Ye et al., 2019). Ninth-grade students, for example, frequently experience heightened pressure in anticipation of high school entrance exams, rendering them especially susceptible to psychological stress (Gao et al., 2021). A shortage of effective support systems—including limited teacher guidance and weak peer connections—can further impede their school adjustment, adversely affecting both academic performance and emotional well-being.





The physical and mental well-being of boarding students is often inferior to that of their non-boarding peers, particularly in terms of school adjustment. Research by Wang, Medina, et al. (2016) indicates that boarders underperform their non-boarding counterparts in nutrition, health, and education. Yang et al. (2011) specifically emphasize that school adjustment among rural boarding students encompasses two dimensions: 'negative adjustment' and 'positive adjustment'. However, Schaverien (2004) pointed out that boarding will bring problems such as maladjustment in children. Therefore, it is crucial to focus on the school adjustment of boarding students. On the one hand, school adjustment is a central component of early psychological development, and maladjustment during middle school years can have long-lasting consequences. On the other hand, boarding students represent a significant demographic whose developmental trajectories have implications for both individuals



and society at large.

Perceived stress is a critical factor influencing individual development. It affects not only an individual's happiness (Schiffirin & Nelson, 2010), mental health (Catabay et al., 2019), subjective well-being (Katana et al., 2019), and life satisfaction (Dymecka et al., 2022) but also affects a person's behaviour (Pfeffer et al., 2020) and emotions (Yan et al., 2021). For example, Bergin and Pakenham (2016) highlight a significant relationship between perceived stress and adjustment. More specifically, high levels of perceived stress can impair an individual's adjustment. In addition, some of these variables can affect adjustments, such as personal internal and external factors (Lee et al., 2020); therefore, the pathway from high perceived stress to improved adjustment warrants further investigation. Moreover, effectively managing perceived stress can mitigate certain adverse outcomes, including emotional and behavioral issues (Heinen





et al., 2017; Ryan, 2013). Thus, perceived stress is a variable that merits careful consideration.

Teacher support represents a vital external resource for students. It not only influences students' mental health and life satisfaction through its impact on emotions and behavior, but also enhances school adjustment by improving learning engagement and academic performance. For example, Lee and Bierman (2015) found that positive teacher influence facilitated students' smoother adaptation to the school environment during transitions. In addition, teacher support plays a critical role in improving students' learning performance (Kiuru et al., 2016). Other studies also found that teachers served as protective factors supporting adolescents' adjustment during the epidemic (Ye et al., 2021). Therefore, researchers should further explore the role of



Furthermore, peer relationships exert a significant influence on middle school students. In recent years, many researchers have explored peer relationships and found that peer relationships have been shown to influence mental health (Long et al., 2021), as evidenced by their impact on emotions, behaviors, social adjustment, and life satisfaction (Allen et al., 2020; Huang et al., 2023; Milledge et al., 2019; Ndukaihe et al., 2023; Wang, Hatzigianni, et al., 2016; Wang et al., 2023). On the other hand, peer relationships also play a critical role in school adjustment, influencing factors such as bullying behavior, school engagement, loneliness, mental health, self-concept, academic performance, social development, parent-child relationships, and school belonging. For example, Wentzel (2017) provided an in-depth analysis of how peer





relationships affect students' academic performance. Therefore, peer relationships represent essential components of individual development.

In addition to external factors, internal factors also play a crucial role in individual development. Among these, self-esteem emerges as particularly significant during adolescence. Middle school is a crucial stage for the development of self-awareness, during which students undergo secondary sexual changes and begin forming a clearer self-identity. At this stage, adolescents cultivate a pronounced need for self-esteem, independence, and autonomy, particularly in their interactions with parents and teachers. Their perceived self-worth impacts their social interactions, academic motivation, and emotional well-being, ultimately influencing their long-term personal development. Moreover, self-esteem demonstrates a strong association with both mental health and school adjustment. Moksnes and Reidunsdatter (2019) conducted a longitudinal study in Norway involving 351 students aged 15–21 and found that higher self-esteem correlated significantly with improved mental health outcomes. Similarly, Xin et al. (2019) examined 400 adolescents in southwest China and reported that self-esteem served as a positive predictor of social adjustment, highlighting its importance in adolescents' ability to navigate social environments successfully. Given its profound influence on psychological well-being and school adjustment, self-esteem stands as a critical factor that merits further investigation and intervention. Middle school students, particularly those in boarding school settings, may encounter unique challenges affecting their self-esteem, including reduced parental involvement, increased academic stress, and peer relationship dynamics. Therefore, comprehending self-esteem's role in adolescent development is critical for developing effective educational





policies, psychological interventions, and school-based support initiatives that enhance students' overall well-being and adjustment.

### 1.3 Problem Statement

China's substantial population of boarding students is primarily attributed to its family planning policies and rapid economic development, which have diminished parents' need for multiple children (Attane, 2002). The rural total fertility rate in China dropped by more than 60 percent during the late 1970s. Between 1982 and 2000, the youth population declined from 420 million to 345 million (NBSC, 1982, 2000), contributing to reduced school enrollment in rural areas (Chen et al., 2015). To improve educational



resource efficiency, the Chinese government introduced the "School Merger Program," consolidating smaller schools into larger centralized institutions and relocating students accordingly (MOE of PRC, 2001). However, many rural students, whose homes were located far from central schools, were compelled to board due to inadequate transportation options. Some parents also choose boarding schools to reduce caregiving responsibilities and foster their children's independence. In response, the government allocated funding to enhance boarding school infrastructure (China, 2004; MOE of PRC, 2010b). By 2016, 27.5 percent of rural students resided in boarding schools, emphasizing the increasing significance of this demographic (MOE of PRC, 2017).

Boarding students tend to be more vulnerable to psychological challenges, including behavioral issues such as truancy, bullying, and dropping out (Moswela, 2006), emotional problems such as anxiety and homesickness (Reardon et al., 2023; Wahab et al., 2013), and difficulties with school adjustment (Kanga, 2017). Unaddressed, these





challenges can impede their development and have attracted significant attention from both researchers and government officials. Research has highlighted the adverse effects of boarding, including academic, social-emotional, and mental health challenges (Wang et al., 2017; Xing et al., 2021), although some studies note both positive and negative effects (Du et al., 2010). Additionally, long-term boarding school stays can exacerbate homesickness, thereby impairing school adjustment and academic achievement (Downs, 2001; Sun & Hagedorn, 2016). This gap in understanding the unique challenges boarding students face, especially in their school adjustment, highlights the necessity for further research in this area.

Boarding middle school students experience heightened levels of perceived stress, necessitating particular attention, especially among those in rural areas. This concern arises for several reasons. First, middle school marks a critical period of rapid psychological and physiological development, often accompanied by imbalances and turbulence. The experiences during this developmental stage significantly influence not only immediate physical and mental health but also long-term outcomes in later life. Therefore, understanding and addressing the perceived stress stemming from environmental factors during this period is imperative. Second, the transition from primary to middle school introduces substantial changes in the learning environment. Students face increased academic demands and a heavier workload, which can amplify their perceived stress. Third, the unique environment of boarding schools further exacerbates these challenges. Due to their enclosed nature, boarding schools limit students' access to external support systems, compelling them to resolve issues independently. This restriction may intensify individual stress levels.





Empirical evidence supports these observations. For instance, Huang and Wu (2021) investigated 710 rural middle school boarding students and reported a high average perceived stress score of 42.15. Additionally, perceived stress has been linked to school adjustment challenges (Madson et al., 2022; Siah & Tan, 2015; Zhang et al., 2019). While previous research confirms that boarding students' stress perceptions influence school adjustment, a significant gap exists in understanding the mechanisms underlying this relationship. This study addresses this gap by exploring how perceived stress among boarding students impacts their school adjustment.

In addition, several demographic variables can affect the school adjustment of boarding students. For example, gender plays a significant role in students' levels of school adjustment. Wu et al. (2015) conducted a survey involving 524 preschool students and found that, although girls exhibited higher levels of shyness compared to boys, they demonstrated better overall school adjustment. This finding underscores gender's role in shaping students' adaptation to the school environment. However, other studies have reported contrasting findings. For example, An et al. (2022) surveyed 1,192 high school students and found that boys exhibited better school adjustment than girls. Furthermore, according to ecosystem theory, gender constitutes a central element of an individual's broader environment, shaping experiences and opportunities across different systems. For example, in microsystems, gender roles and expectations shape children's developmental trajectories. Meanwhile, at the macrosystem level, gender roles and expectations differ across countries and cultural contexts, further influencing children's development. Therefore, exploring gender's role in school adjustment can provide insights for developing targeted interventions and policies that promote gender equity, inclusion, and the reduction of systemic disparities.





Aside from gender, grade level also emerges as a significant demographic factor; Liu (2004a) observed that adolescents' school adjustment tends to decline as they progress through grades. In addition, grade levels can be conceptualized as a temporal component within ecosystem theory, as they represent a time-bound aspect of students' developmental experiences within the educational system. As students grow at different grade levels, they face evolving challenges and expectations that influence their academic performance, social interactions, and school adjustment. Thus, examining the influence of grade level on school adjustment is equally important.

Teacher support constitutes a vital external social resource for boarding students. In prior research on boarding students, external resources have predominantly centered on parental support or relationships. However, for boarding students, more attention should be directed toward the role of teacher support within the boarding environment. On the one hand, for boarding middle school students, long-term boarding life presents persistent challenges. Boarding students lack the companionship and support of their parents, prompting them to seek alternative social resources to compensate for parental support. On the other hand, after entering middle school, the school environment becomes the primary context for support, with only a limited number of individuals available to provide assistance. Some studies suggest that teacher support can help mitigate the absence of parental involvement (Chen et al., 2019). Numerous studies have shown that teacher support is closely linked to school adjustment (Fisher et al., 1998; Lee, 2007). Wu et al. (2019) showed that teacher autonomy support directly predicts middle school students' school adjustment. Several studies have examined the influence of classroom dynamics on student development, emphasizing the critical role of class structure. Findings indicate that teachers exert a





substantial influence on students' interpersonal communication and academic performance through instructional guidance and emotional support. Additionally, teachers indirectly support students' school adjustment by influencing the peer dynamics within the classroom environment (Hendrickx et al., 2016).

Peer relationships among boarding students have a significant impact on their overall school experience. Negative peer relationships not only negatively affect students' current interpersonal communication and learning experiences but also have a profound impact on their character development and social adjustment. Conversely, a positive and harmonious peer relationship plays a pivotal role in promoting children's physical and mental well-being. A research study on left-behind children mentions that peer relationships are a significant determinant of school adjustment among left-behind children (Zhang & Deng, 2022). Tillery et al. (2017) research shows that good peer relationships play a vital role in children's adjustment to stressful events, with the extent of this adjustment partially influenced by the quality of peer relationships. Especially for boarding groups, Downs and Jacqueline (2013) studied the school adjustment of middle school boarding first-year students and concluded that most students viewed positive peer group interactions and the school's supportive role as key factors in better adapting to boarding life. Thus, peer relationships are a crucial factor in boarding students' ability to adjust to the school environment.

In conclusion, teacher support and peer relationships are crucial to the development and adjustment of students within the boarding school environment. However, there remains a substantial gap in the literature regarding the influence of teacher support and peer relationships on the school adjustment of rural boarding





middle school students. This research will conduct a comprehensive analysis of the relationship among teacher support, peer relationships, and the school adjustment of boarding students. On the one hand, it can help rural boarding schools recognize the pivotal role of teacher and peer relationships in students' school adjustment and provide guidance for mental health education.

In addition to external factors, self-esteem is a critical internal factor that significantly contributing to school adjustment. Self-esteem can be defined as an individual's overall evaluation or attitude (Robins et al., 2001). As a core component of the self-system, self-esteem encompasses cognition, motivation, emotion, and behavior, serving as a key driver of social behavior and a critical indicator of personal adjustment (Huang, 2010). Li et al. (2012) found a significant relationship between self-esteem and school adjustment, further confirmed through comparisons of school adjustment in children with high and low levels of self-esteem. Lower self-esteem in children is associated with increased problematic behaviors and diminished social abilities.

To further elucidate the mechanisms linking self-esteem and school adjustment, Acosta-Gonzaga (2023) demonstrated that self-esteem affects academic engagement and performance. Higher self-esteem was associated with increased engagement, reduced disengagement, and improved academic adjustment under stress. Fullerton et al. (2021) research highlighted that self-esteem functions as a protective factor, reducing the adverse effects of stress on students' mental health and performance. It emphasized how self-esteem and resilience resources help alleviate stress, enabling students to cope more effectively with academic challenges. Previous studies have indicated that self-esteem moderates the relationship between stressful life events and





depression (Lan et al., 2019). Additionally, it serves as a moderating factor between women's experiences of discrimination and their psychological distress (Corning, 2002).

In the present study, self-esteem was investigated as a moderating variable. A moderator variable affects the strength or direction of the relationship between independent and dependent variables, potentially modifying this relationship depending on its value. Conversely, a mediator variable describes the mechanism by which an independent variable influences a dependent variable, acting as an intermediary within the causal pathway. Previous research has demonstrated varied effects of high versus low self-esteem on outcome variables. For instance, Raskauskas et al. (2015) showed that self-esteem moderates the association between peer victimization and academic performance. Their results revealed that those with above-average social self-efficacy experienced lower levels of peer victimization and depression, as well as better academic outcomes. Similarly, Wang et al. (2018) found a stronger connection between rumination and depression in individuals with low self-esteem than in those with high self-esteem, underscoring self-esteem's role as a moderator.

In addition to its role as a moderator, self-esteem has also been recognized as a mediator in numerous psychological processes. For example, Kong et al. (2013) observed that self-esteem partially mediated the relationship between social support and life satisfaction and positive affect among Chinese university students, and fully mediated the influence of social support on negative affect. This suggests that self-esteem acts as an essential intermediary, linking social support to subjective well-being. Furthermore, Zhao, Zheng, et al. (2021) showed that academic self-efficacy fully





mediated the link between self-esteem and academic engagement in adolescents, suggesting that greater self-esteem boosts academic self-efficacy, thereby fostering increased academic engagement. These findings illustrate the complex role self-esteem plays in psychological research, emphasizing its dual importance as both a moderator and mediator in diverse contexts.

Given these findings, the influence of self-esteem on school adjustment is substantial. However, current research lacks sufficient clarity on how self-esteem affects the relationship between perceived stress and school adjustment, especially in boarding students. This study aims to address this gap by examining self-esteem's moderating effects. Specifically, it investigates how teacher support and peer relationships shape the relationship between perceived stress and school adjustment among middle school boarding students. This focus highlights the innovative nature and scholarly contribution of the present study to the existing literature.

#### **1.4 Research Objectives**

The general objective of this study is to examine the role of teacher support, peer relationships, and self-esteem in the relationship between perceived stress and school adjustment among boarding students of middle school in China by investigating the mediating roles of teacher support, peer relationships, and the moderating role of self-esteem in the relationships between the independent variables of the study and school adjustment.



The specific goals are to :

1. Compare the differences in perceived stress and school adjustment across gender and grade.
2. Investigate the direct relationships between perceived stress, teacher support, peer relationship, self-esteem and school adjustment.
3. To assess whether teacher support and peer relationships mediate the relationship between perceived stress and school adjustment.
4. Does self-esteem moderate the relationships between perceived stress and school adjustment.

## 1.5 Research Questions

The following questions are expected to be answered in the current study.

1. What are the differences in perceived stress and school adjustment among boarding students of middle school in Guangxi, China based on gender and grade?
2. What are the direct relationships between perceived stress, teacher support, peer relationship, self-esteem and school adjustment among boarding students of middle school in Guangxi, China?
3. Does the teacher support and peer relationship mediate the relationship between perceived stress and school adjustment?



4. Dose self-esteem moderates the relationships between perceived stress and school adjustment?

## 1.6 Research Hypotheses

Regarding the objectives of the study, the following hypotheses were proposed.

### Objective 1:

Ha1: There is a significant difference in perceived stress between male and female



Ha2: There is a significant difference in school liking between male and female students.

Ha3: There is a significant difference in school avoidance between male and female students.

Ha4: There are significant differences in perceived stress across different grades.

Ha5: There are significant differences in school liking across different grades.

Ha6: There are significant differences in school avoidance across different grade.



**Objective 2:**

Ha7: There is a significant negative relationship between perceived stress and school liking.

Ha8: There is a significant positive relationship between perceived stress and school avoidance.

Ha9: There is a significant positive relationship between teacher support and school liking.

Ha10: There is a significant negative relationship between teacher support and school avoidance.

Ha11: There is a significant positive relationship between peer relationships and school liking.

Ha12: There is a significant negative relationship between peer relationships and school avoidance.

Ha13: There is a significant positive relationship between self-esteem and school liking.

Ha14: There is a significant negative relationship between self-esteem and school avoidance.

**Objective 3:**

Ha15: Teacher support mediates the relationship between perceived stress and school liking among boarding students of middle school in China.





Ha16: Teacher support mediates the relationship between perceived stress and school avoidance among boarding students of middle schools in China.

Ha17: Peer relationship mediates the relationship between perceived stress and school liking among boarding students of middle school in China.

Ha18: Peer relationship mediates the relationship between perceived stress and school avoidance among boarding students of middle school in China.

#### **Objective 4:**

Ha19: Self-esteem moderates the effects of teacher support with perceived stress on school liking among boarding students of middle school in China.



Ha20: Self-esteem moderates the effects of teacher support with perceived stress on school avoidance among boarding students of middle school in China.

## **1.7 Definition of Terms**

Conceptual and operational definitions of the study's variables are described in this section.





### 1.7.1 Middle School Boarding Students

**Conceptual definition:** Students at middle boarding schools adhere to a fully closed boarding schedule, living on campus from Monday through Friday. During this period, the school manages all facets of their daily lives, such as education, housing, and safety. Students go home on Friday afternoons and must return to school by Sunday afternoon (Yin et al., 2017).

**Operational definition:** Students live a fully closed boarding life in rural areas, learning and living in school from Monday to Friday, including learning, accommodation, safety and other issues, go home on Friday afternoon and go back to school on Sunday afternoon, ages 9 to 18 (Liu, 2021).



### 1.7.2 Perceived Stress

**Conceptual definition:** Perceived stress refers to an individual's subjective evaluation of the extent to which life events and circumstances are stressful. It encompasses both the cognitive appraisal and emotional responses to stressors encountered over a specific period, reflecting the dynamic interplay between environmental demands and personal coping resources (Yılmaz Koğar & Koğar, 2024).

**Operational definition:** Perceived stress is conceptualized as an individual's cognitive appraisal of potentially stressful events and the psychological responses that emerge when one identifies and evaluates environmental conditions as threatening or





challenging. Perceived stress was measured using the Perceived Stress Scale (Cohen et al., 1983), which was later revised and further validated by (Cohen et al., 1988) and confirmed in subsequent research (Denovan et al., 2019). Yang and Huang (2003) adapted the most popular tool for assessing perceived stress—the Perceived Stress Scale—into Chinese. This tool comprises items that assess individuals’ perceptions of stress over the past month. Higher scores indicate greater perceived stress, whereas lower scores indicate lower stress levels. This study employed the Chinese Perceived Stress Scale (Yang & Huang, 2003).

### 1.7.3 School Adjustment

**Conceptual definition:** School adjustment refers to the extent to which students positively engage in school activities and achieve academic success while effectively adapting to the social and emotional demands of the school environment. This multidimensional construct encompasses academic performance, social integration, and emotional engagement, reflecting students’ comfort, commitment, and overall well-being within educational settings (Azpiazu et al., 2024).

**Operational definition:** School adjustment refers to the extent to which students successfully complete school tasks and enjoy a positive school life, which can be measured by their attitudes of school liking or school avoidance. Ladd et al. (1997) developed the school adjustment questionnaire, which was later modified by Li, Zou, et al. (2003) to create the School Attitude questionnaire used in this study. School adjustment was assessed through two dimensions: school liking and school avoidance.





Higher scores correspond to a greater intensity of the respective dimension. This study employed the questionnaire modified by Li, Zou, et al. (2003).

#### 1.7.4 Teacher Support

**Conceptual definition:** Teacher support is defined as the support provided by teachers to students on multiple levels, including emotional, cognitive, and behavioral aspects (Tao et al., 2022).

**Operational definition:** Teacher support is the students' perception of educators' care and concern, including academic performance, emotional health, and interpersonal relationships (Fang et al., 2025). The questionnaire used to measure teacher support in this study was developed by Jiang (2004). This questionnaire demonstrates high reliability and validity and has been widely used in school psychology research in China. A higher total score indicates a better teacher-student relationship.

#### 1.7.5 Self-Esteem

**Conceptual definition:** Self-esteem is defined as an individual's evaluation of their overall self-worth. This evaluation includes both cognitive assessments of one's abilities, qualities, and traits, as well as emotional experiences such as pride and shame (AlHarbi, 2022).





**Operational definition:** Self-esteem is defined as an individual's subjective evaluation of their overall worth and capabilities. It not only reflects one's awareness of personal strengths and weaknesses but also encompasses the emotional aspect of self-acceptance. High levels of self-esteem are typically associated with mental health, positive affective states, and healthy interpersonal relationships, whereas low self-esteem may be linked to negative psychological states such as depression and anxiety (Orth & Robins, 2014). In this study, we employed the Rosenberg Self-Esteem Scale, as translated by Li (2021), to assess adolescent self-esteem. This instrument is a widely used self-report measure. Self-esteem is classified into three levels—high, medium, and low—where higher scores indicate stronger self-esteem and lower scores reflect weaker self-esteem.



### 1.7.6 Peer Relationship

**Conceptual definition:** Peer relationships refer to the mutual connections and support established among individuals within small group interactions, based on shared interests, experiences, and emotional exchanges. These relationships encompass not only emotional dependence and support but also mutual learning, imitation, and information transmission, playing a crucial role in an individual's socialization, psychological well-being, and behavioral development (Shao & Kang, 2022).

**Operational definition:** Peer relationships refer to the emotional bonds established through mutual communication and interaction among individuals who are similar in age, cognitive abilities, or social status. These relationships are characterized





by equality, reciprocity, and the sharing of experiences, and they provide individuals with opportunities for emotional support and social learning, thereby promoting their social and emotional development (Li, 2021). The Friendship Quality Scale (FQQ), which was adapted for use in the Chinese context by Zhou et al. (2006), was employed in this study.

## 1.8 Significance of the Study

This study is significant for both theoretical development and practical applications, particularly in understanding the relationship between perceived stress and school adjustment among boarding students in rural Chinese middle schools. It provides new insights that contribute to existing knowledge and offers actionable guidance for improving these students' well-being and adjustment.

### 1.8.1 Significance of the Theories

This study contributes to the literature by synthesizing ecosystem, attachment, and self-determination theories to elucidate the multifaceted relationships among perceived stress, teacher support, peer relationships, self-esteem, and school adjustment. While previous studies often focused on these factors in isolation, this research offers a holistic framework that simultaneously considers internal factors (self-esteem) and external factors (teacher and peer support).



The study expands on attachment theory by illustrating the role of teachers as ‘special attachment figures’ (Zajac & Kobak, 2006), who exert a direct influence on students’ school adjustment. It further incorporates self-determination theory, emphasizing that when autonomy, competence, and relatedness are satisfied, they enhance motivation and school adjustment (Deci & Ryan, 1985; Ryan & Deci, 2017). By integrating these theories, the study offers a more comprehensive understanding of the factors underlying school adjustment and fills gaps in existing research, which has largely examined internal or external influences in isolation.

Additionally, this research advances knowledge by studying boarding students in rural China, a demographic facing distinctive school adjustment challenges. It offers cross-cultural insights that enhance understanding of school adjustment across various educational settings. The findings may extend the applicability of ecosystem, attachment, and self-determination theories to boarding students in other Asian settings with similar cultural and educational conditions.

### **1.8.2 Significance to the Practices**

The practical significance of this study lies in its potential to enhance the well-being and school adjustment of boarding students in rural Chinese middle schools, who frequently face elevated stress and adjustment challenges. By recognizing teacher support, peer relationships, and self-esteem as critical influences on adjustment, the study offers targeted interventions for students, educators, and policymakers.



For policymakers, the findings emphasize the necessity of looking beyond financial and infrastructure enhancements in rural education. Priority should be placed on psychological support systems and mental health education programs designed to foster self-esteem, strengthen positive peer relationships, and enhance teacher support. Schools can use these insights to create environments that better support the psychological needs of boarding students, thus reducing maladjustment and enhancing educational outcomes.

For educators and counsellors, this study offers a foundation for developing prevention and intervention strategies that address both external support systems (such as teacher and peer relationships) and internal resources (such as self-esteem), which are crucial for students to manage stress and adapt to school life. Strengthening teacher-student relationships and peer support systems may improve students' capacity to handle stress, while initiatives aimed at fostering self-esteem can serve as a protective factor against maladjustment.

The findings also benefit families of boarding students by emphasizing the necessity of cultivating supportive home environments that promote self-esteem and encourage positive peer interactions. Awareness of the factors contributing to school adjustment can help parents cooperate more effectively with schools and educators, thereby alleviating student pressure and enhancing their emotional and psychological well-being.

Finally, the study offers direct benefits to boarding students by presenting a framework that helps them comprehend and regulate their perceived stress. By





understanding the importance of teacher and peer support along with the maintenance of healthy self-esteem, students can take proactive steps to improve their school adjustment and overall well-being.

## 1.9 Study of Limitations

This study has several limitations that should be taken into account. The participants were limited to middle school students ages 9 to 18, potentially restricting the generalizability of the findings to other demographic groups. Second, the descriptive correlational design of the study precluded the establishment of causal relationships among the variables. Finally, the reliance on self-report tools may have introduced bias into the research findings. These limitations must be carefully considered when interpreting the results and planning future research in this area. Future studies employing more diverse samples, alternative research designs, and additional data collection methods could yield a more comprehensive understanding of the relationships among the variables.

## 1.10 Summary

This chapter provides an overview of the study, introducing its background, objectives, research questions, and hypotheses. The research is framed within the context of rural Chinese middle school boarding students, emphasizing the challenges they face in school adjustment, particularly in relation to perceived stress, teacher support, peer





relationships, and self-esteem. The chapter also defines these key terms both conceptually and operationally, discusses their theoretical underpinnings, and outlines the study's potential significance for theory and practice. Furthermore, it identifies the limitations of the research, such as the demographic constraints of the sample and reliance on self-reported data. These limitations underscore the need for careful interpretation of the findings and point toward directions for future research.

