

Parental Involvement and Student Outcomes: Evidence from Public High Schools in Wuhou District, Chengdu

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Abstract

At the senior high school level, students' outcomes are reflected not only in academic achievement but also in learning engagement and emotional well-being with school adjustment. Parental involvement, as an important family-level factor, may exhibit complex characteristics in high-pressure educational contexts, where support and pressure coexist. Based on this perspective, the present study investigated the relationship between different forms of parental involvement and students' outcomes among public high school students in Wuhou District, Chengdu. Adopting a quantitative cross-sectional survey design, the study examined these relationships from students' perceived perspectives. Students' outcomes were conceptualized as a multidimensional construct comprising academic achievement, learning engagement, and emotional well-being and school adjustment, while parental involvement was categorized into home-based academic support, parent-child communication, parental expectations and motivation pressure, and school-based parental participation. Descriptive statistics and Pearson correlation analyses were conducted using 435 valid questionnaires. The results indicated that students' outcomes were at a moderate overall level, whereas parental involvement was relatively high, with notable differences across involvement dimensions. Correlation analyses revealed that overall parental involvement and its dimensions were significantly and positively associated with students' outcomes, with home-based academic support and parent-child communication showing relatively stronger associations. The findings suggest that at the senior high school stage, parental involvement is not simply a matter of "more is better"; rather, its effectiveness depends on achieving a balance between support and pressure. This study provides empirical evidence for understanding the differentiated roles of parental involvement in students' outcomes within the context of urban public high schools in China and offers practical implications for family education guidance and home-school collaboration.

Keywords: Parental Involvement, Student Outcomes, Learning Engagement, Senior High School Students

Introduction

In secondary education research, student outcomes have long been simplified as examination scores or academic rankings. However, increasing evidence suggests that a single achievement indicator is insufficient to capture students' actual developmental trajectories within school contexts. Especially in high-pressure and highly competitive Asian secondary education environments, factors such as learning engagement, classroom participation, learning persistence, and emotional well-being with school adjustment often interact with academic performance to constitute students' overall learning outcomes and exert a critical influence on their long-term development (Yang et al., 2023; Ye et al., 2025). At the senior high school level in China, intensified competition for further education and evaluative mechanisms further amplify the cumulative effects of academic pressure. While striving for academic success, students are more likely to experience fatigue, anxiety, and emotional vulnerability, which underscores the practical necessity of adopting a multidimensional understanding of learning outcomes (Chen et al., 2021; Lv et al., 2022).

Among the various factors influencing student outcomes, family-level variables have consistently been regarded as foundational, with parental involvement widely identified as an important explanatory factor for students' academic performance and learning behaviors (Erdem & Kaya, 2020; Sharma, 2024). A substantial body of research indicates that parents' engagement in home learning environments, academic support, educational communication, and school participation is significantly associated with students' achievement, learning engagement, and adjustment outcomes (Erdem & Kaya, 2020; Gu et al., 2025). However, this relationship is not always stable at the senior high school stage. As adolescents' needs for autonomy and psychological independence increase, the role of parental involvement may manifest as a dual structure in which support and control coexist. Existing studies suggest that certain forms of parental involvement, such as home-based academic support and positive communication, may enhance students' learning engagement and sustained motivation, whereas other forms, including excessive expectations, comparative demands, and pressure-oriented supervision, may induce anxiety and negative emotions, thereby constraining students' emotional adaptation and school well-being (Chen et al., 2021; Ye et al., 2025).

Despite these insights, several research gaps remain. First, in terms of samples and contexts, many domestic studies focus on primary or junior secondary education or emphasize rural and underdeveloped regions, resulting in limited empirical evidence from senior high schools, particularly urban public high schools. This gap is notable given that senior high school represents a period of peak academic pressure and concentrated family educational expectations (Lv et al., 2022; Gu et al., 2025). Second, regarding the conceptualization of outcome variables, some studies continue to rely primarily on academic achievement, with limited integration of learning engagement and emotional adaptation into a unified analytical framework. This approach constrains the ability to capture the complex structure in which parental involvement may simultaneously promote academic outcomes while imposing psychological burdens (Yang et al., 2023; Ye et al., 2025). Third, in terms of measurement perspectives, an increasing number of studies indicate that adolescents' perceived parental involvement is more predictive of their school behaviors and emotional responses than parental self-reports, particularly for dimensions such as parent-child communication (Liu et al., 2022). Accordingly, examining parental involvement from students'

perceived perspectives offers both methodological value and closer alignment with adolescents' lived family–school experiences.

Against this backdrop, the present study is situated in the context of public senior high schools in Wuhou District, Chengdu. Student outcomes are conceptualized as a multidimensional construct comprising academic achievement, learning engagement, and emotional well-being with school adjustment, while parental involvement is categorized into home-based academic support, parent–child communication, parental expectations and motivation pressure, and school-based parental participation. Drawing on students' perceived perspectives, the study systematically examines the relationships between different forms of parental involvement and students outcomes. By focusing on a high-pressure urban public high school context, the study aims to capture the differentiated roles of parental involvement and to identify potential tensions between supportive and pressure-oriented involvement practices (Erdem & Kaya, 2020; Liu et al., 2022; Wu, 2024).

Theoretically, this study is grounded in Self-Determination Theory, which emphasizes the fulfillment of autonomy, competence, and relatedness needs in students' motivation and adjustment. Parental involvement characterized by supportive communication and resource provision is more likely to foster students' intrinsic motivation and learning engagement, whereas involvement dominated by controlling demands and pressure transmission may undermine students' autonomy experiences and trigger negative emotions, thereby affecting school adjustment (Wu, 2024; Ye et al., 2025). From a practical perspective, the findings provide targeted evidence for home–school collaboration and family education guidance, highlighting that parental involvement is not simply a matter of “more is better,” but rather depends on achieving an appropriate balance between support and pressure. Overall, by adopting a student-perceived perspective and employing multidimensional learning outcome indicators, this study offers empirical insights into the boundaries of family educational influence and strategies for optimizing parental support during the senior high school stage in urban Chinese contexts (Yang et al., 2023; Liu et al., 2022).

Literature Review

The Multidimensional of Student Outcomes

In educational research, student outcomes have long been conceptualized primarily in terms of academic achievement, particularly within examination-oriented secondary education systems, where test scores and academic rankings are widely regarded as direct indicators of learning effectiveness. However, with the advancement of learning sciences and developmental psychology, an increasing number of scholars have pointed out that a single achievement-based indicator is insufficient to fully capture students' actual developmental trajectories within school contexts (Yang et al., 2023). At the secondary school level, students' learning process experiences, levels of learning engagement, and emotional well-being with school adjustment are often intertwined with academic performance, jointly constituting their overall learning outcomes. From the perspective of academic performance, achievement remains the most visible and institutionalized dimension of learning outcomes. In the Chinese senior high school context, academic performance is closely related to students' self-evaluation and directly influences educational opportunities and future developmental pathways, and therefore receives substantial attention from both families and schools (Chen et al., 2021). Nevertheless, existing research also indicates that in highly

competitive environments, improvements in academic performance do not necessarily coincide with positive learning experiences, as some students may maintain high levels of achievement while experiencing declines in learning motivation and emotional exhaustion (Lv et al., 2022).

Learning engagement is widely regarded as an important process-oriented variable linking learning environments and academic performance. It typically encompasses behavioral, emotional, and cognitive dimensions, reflecting students' classroom participation, task completion, learning persistence, and affective attitudes toward learning activities (Yang et al., 2023). Previous studies have demonstrated that learning engagement not only predicts current academic achievement but is also closely associated with students' long-term academic development and school adjustment (Wu, 2024). Evidence from Chinese secondary school samples further shows that learning engagement plays a mediating role between family support and academic achievement, highlighting its critical position in understanding student outcomes.

Emotional well-being and school adjustment constitute an indispensable psychological dimension of student outcomes. A large body of research has shown that secondary school students, particularly those in senior high school, are prone to experiencing anxiety, fatigue, emotional fluctuations, and a diminished sense of school belonging when exposed to sustained academic pressure (Lv et al., 2022). These emotional experiences not only influence students' learning motivation and engagement but may also weaken their capacity to cope with academic challenges. Chen et al. (2021) found that family and school environmental factors play an important role in shaping students' emotional adjustment, which in turn affects their learning behaviors and academic performance. Therefore, understanding student outcomes from a multidimensional perspective that integrates academic performance, learning engagement, and emotional well-being with school adjustment enables a more comprehensive understanding of students' learning conditions during the senior high school stage. This multidimensional conceptualization provides an important theoretical foundation for further exploring the influence of family factors, particularly parental involvement, on students' development.

The Multidimensional of Parental Involvement

Parental involvement, as a core concept in family education research, is commonly understood as the time, energy, and resources that parents invest in their children's education. This includes support for learning activities, communication with children, and interactions with schools (Erdem & Kaya, 2020). A substantial body of empirical research has demonstrated significant associations between parental involvement and students' academic performance, learning attitudes, and behavioral outcomes, thereby identifying parental involvement as an important family-level factor in explaining individual differences in student outcomes. Conceptually, scholars generally agree that parental involvement is not a single behavior but rather a multidimensional construct composed of various forms. Sharma (2024) suggested that parental involvement should at minimum be differentiated into home-based learning support and school-based participation, as these forms differ in their mechanisms of influence and outcome effects. Subsequent studies further emphasize that the quality of parent-child communication, parental educational expectations, and the emotional tone

underlying involvement behaviors are also critical dimensions for understanding the effects of parental involvement (Erdem & Kaya, 2020).

At the family level, home-based academic support is considered one of the most direct forms of parental involvement and typically includes helping with homework, providing learning resources, and creating a supportive learning environment. Existing research indicates that moderate levels of home-based academic support can enhance students' learning engagement and academic self-confidence, particularly when academic tasks are challenging (Gu et al., 2025). However, other studies caution that overly intrusive academic support may undermine students' autonomy and, consequently, reduce their intrinsic learning motivation. Parent-child communication, as another important component of parental involvement, has received increasing scholarly attention in recent years. Liu et al. (2022) found that during adolescence, students' perceptions of the quality of parent-child communication are more predictive of their learning engagement and emotional states than parents' self-reported communication practices. Supportive and open communication tends to strengthen students' emotional security and learning confidence, whereas communication dominated by criticism or outcome-oriented demands may increase psychological burden.

Parental educational expectations and the associated learning pressure constitute a particularly salient dimension of parental involvement in the Chinese educational context. A meta-analysis by Erdem and Kaya (2020) showed that parental educational expectations are generally positively associated with students' academic achievement, although the strength and direction of this relationship vary across cultural contexts and educational stages. Research conducted in China further suggests that when educational expectations are conveyed through encouragement and support, they may promote students' academic self-concept. In contrast, when expectations are primarily expressed through comparative demands or pressure-oriented supervision, they are more likely to heighten students' anxiety and negatively affect their emotional adjustment (Chen et al., 2021; Ye et al., 2025).

At the school level, parental involvement is mainly manifested through attending parent meetings, communicating with teachers, and participating in school activities. Such involvement is generally regarded as beneficial for strengthening home-school connections; however, its direct influence on student outcomes tends to be relatively limited at the senior high school stage and is often constrained by parents' time resources and institutional arrangements within schools (Wu, 2024). Overall, existing research consistently supports the view that parental involvement is a multidimensional construct, with different types of involvement exhibiting distinct pathways of influence and outcome patterns. This conceptualization provides a theoretical foundation for further examining the differentiated effects of parental involvement on students outcomes.

Research on the Relationship between Parental Involvement and Student Outcomes

A large body of international and domestic research has confirmed that parental involvement is statistically associated with student outcomes; however, this relationship is not simply linear. Through a meta-analytic synthesis of multiple quantitative studies, Erdem and Kaya (2020) found that overall parental involvement is positively related to students' academic achievement, although the effect sizes are relatively modest and vary substantially across different forms of involvement. In the Chinese context, home-based academic support

and parent–child communication are generally regarded as conducive to enhancing students' learning engagement and academic performance. Wu (2024) demonstrated that family support indirectly influences academic achievement by strengthening students' learning engagement, highlighting the mediating role of process-oriented variables in the family–learning relationship. Meanwhile, a longitudinal study by Gu et al. (2025) indicated that the effects of parental involvement on student outcomes may change over time and are moderated by students' developmental stages and family resource conditions.

Notably, some studies have begun to address the potential negative effects of parental involvement. Chen et al. (2021) found that in families characterized by high educational expectations but limited supportive resources, students are more likely to experience academic pressure and emotional difficulties. Ye et al. (2025) further argued that while parental involvement may facilitate academic development, it can simultaneously constrain students' emotional adjustment through pressure-related mechanisms, thereby creating a structural tension in which facilitative and stressful effects coexist. In addition, differences in research perspectives also influence empirical conclusions. Liu et al. (2022) reported that students' perceived parental involvement is more strongly associated with their learning behaviors and emotional responses than parents' self-reported involvement, suggesting that during adolescence, a student-centered perspective provides greater explanatory power.

Taken together, existing literature offers important theoretical and empirical foundations for understanding the relationship between parental involvement and student outcomes, yet several limitations remain. First, empirical evidence focusing on the senior high school stage, particularly within urban public high schools, is relatively limited. Second, the multidimensional structure of student outcomes has not been sufficiently integrated into parental involvement research. Third, the dual effects of parental involvement and the inherent tensions between support and pressure have not been systematically examined. In response to these gaps, the present study builds on prior research by incorporating multidimensional indicators of student outcomes and adopting a student-perceived perspective to examine the differentiated roles of various forms of parental involvement, thereby providing a theoretical foundation for further analysis of family educational mechanisms at the senior high school stage.

Research Methods

Research Design

This study adopted a quantitative, cross-sectional survey design and collected data through a structured questionnaire to examine the relationships between different dimensions of parental involvement and senior high school student outcomes. This research design is appropriate for investigating the associative structure among multiple variables measured at a single point in time and allows for a systematic examination of the relationships between family-level factors and student outcomes within a clearly defined research scope. Cross-sectional survey methods have been widely used in studies of family education and student development, particularly for analyzing statistical relationships between student-perceived variables and academic and emotional outcomes. In this study, student outcomes were treated as the dependent variable and conceptualized as a multidimensional construct comprising academic achievement, learning engagement, and emotional well-being with school adjustment. Parental involvement was treated as the independent variable and further

categorized into four dimensions: home-based academic support, parent–child communication, parental expectations and motivation pressure, and school-based parental participation. Rather than examining the effect of a single variable, the focus of this study was to compare the differentiated roles of various forms of parental involvement across multiple dimensions of student outcomes.

Research Sampling

The research participants were students enrolled in public senior high schools in Wuhou District, Chengdu. As one of the districts with relatively concentrated educational resources in Chengdu, Wuhou District's public senior high schools are highly representative in terms of instructional quality, academic pressure, and family educational expectations, making the district an appropriate contextual setting for examining family educational mechanisms at the senior high school level (Sohu Education, 2025). A stratified sampling method was employed to obtain the research sample. With school approval, schools were first treated as sampling strata, followed by further stratification by grade level. Questionnaires were then distributed and completed collectively at the class level to ensure adequate representation of students from different schools and grades and to enhance the structural representativeness of the sample. All participants were full-time senior high school students, while students from vocational schools and private schools were excluded to avoid systematic differences in institutional arrangements and parental involvement patterns across school types. After data collection, the questionnaires were screened for completeness and validity, and responses that were clearly incomplete or exhibited abnormal response patterns were removed. A total of 435 valid questionnaires were retained for final analysis.

With regard to sample size adequacy, prior to data collection, the minimum required sample size was calculated using Cochran's sample size estimation method under a 95% confidence level, a 5% margin of error, and an assumed population proportion of 0.5. After applying the finite population correction, the required minimum sample size was determined to be 370 students. The final valid sample size of 435 exceeded this minimum requirement, indicating that the sample size was sufficient to meet the basic statistical requirements for descriptive statistics and Pearson correlation analysis.

Measurement Instruments

Data were collected using a structured student self-report questionnaire consisting of three sections: demographic information, student outcomes, and parental involvement. All items were rated on a Likert-type scale, with higher scores indicating higher levels or frequencies. Students outcomes, the dependent variable of this study, were conceptualized as a multidimensional construct comprising academic achievement, learning engagement, and emotional well-being with school adjustment. Academic achievement was measured through students' self-evaluations of their learning performance, including perceived subject performance, learning progress, and comparisons with peers. Learning engagement assessed students' behavioral and attitudinal involvement in learning activities, such as classroom attention, homework completion, persistence, and effort in overcoming learning difficulties. Emotional well-being and school adjustment measured students' emotional experiences and adaptive functioning in the school context, including perceived academic stress, emotional stability, sense of belonging, and overall school adjustment.

Parental involvement, the independent variable, was measured from students' perceived perspectives and divided into four dimensions: home-based academic support, parent–child communication, parental expectations and motivation pressure, and school-based parental participation. Home-based academic support captured parents' direct assistance with learning at home, including resource provision and attention to learning progress. Parent–child communication assessed the frequency and quality of learning-related communication between parents and students. Parental expectations and motivation pressure reflected students' perceptions of parents' academic expectations and associated pressure. School-based parental participation measured parents' involvement in school activities and home–school communication, such as attending meetings and contacting teachers.

Reliability and Validity

Prior to formal data analysis, the reliability and validity of the measurement scales were examined. Reliability was assessed using Cronbach's alpha coefficients to evaluate internal consistency. The overall scale demonstrated excellent reliability, with a Cronbach's alpha of 0.955. Item analysis showed that the corrected item–total correlation coefficients ranged from 0.395 to 0.668, exceeding the recommended threshold of 0.30. In addition, the value of Cronbach's alpha did not increase substantially with the deletion of any item, indicating good item discrimination and satisfactory overall reliability.

Validity was examined through exploratory factor analysis to assess construct validity. The Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy was 0.938, indicating excellent suitability for factor analysis. Bartlett's test of sphericity was statistically significant ($\chi^2 = 13,278.594$, $df = 1,225$, $p < 0.001$), suggesting that the variables were sufficiently correlated for factor extraction. Moreover, the scale items were developed based on established research and theoretical frameworks and were appropriately adapted to the context of Chinese senior high school education, supporting content validity. The observed relationships among the dimensions were consistent with theoretical expectations, providing methodological support for subsequent analyses.

Data Analysis Methods

Data analysis was conducted using a combination of descriptive and inferential statistical techniques. Descriptive statistics were first employed to examine the overall levels and distributional characteristics of student outcomes and the dimensions of parental involvement. Pearson correlation analysis was then applied to assess the relationships between different dimensions of parental involvement and student outcomes, focusing on the direction and strength of associations. All statistical analyses were performed using SPSS software, with the significance level set at 0.05.

Results

Descriptive Statistics

Descriptive Statistics of Student Outcomes

Table 4.1 presents the descriptive statistics for student outcomes and their respective dimensions. Overall, student outcomes were at a moderately high level ($M = 3.65$). Among the three dimensions, academic achievement recorded the highest mean score, indicating that students generally held positive evaluations of their academic performance. Learning

engagement ranked second, reflecting a moderate level of participation in learning processes. In contrast, the mean score for emotional well-being and school adjustment was relatively lower, suggesting that some students continued to experience challenges in emotional regulation and school adaptation. These results indicate that while senior high school students demonstrated relatively stable academic performance, there remains room for improvement in their learning engagement and emotional adjustment under high academic pressure.

Table 4.1

Descriptive Statistics of Student Outcomes

Variable	N	Mean (M)	Standard Deviation (SD)
Academic Achievement	435	3.78	0.61
Learning Engagement	435	3.62	0.65
Emotional Well-being & School Adjustment	435	3.55	0.68
Student Outcomes	435	3.65	0.64

Descriptive Statistics of Parental Involvement

Table 4.2 presents the descriptive statistics for overall parental involvement and its four dimensions. Overall, the level of parental involvement was moderately high (M = 3.69). Among the dimensions, parental expectations and motivation pressure as well as school-based parental participation showed relatively higher mean scores, indicating that parents generally held high academic expectations for their children and were actively involved in school-related activities. In contrast, the mean scores for home-based academic support and parent-child communication were relatively lower, suggesting variations in parents' daily academic support and learning-related communication within the family context. These findings reflect an imbalance in parental involvement across different dimensions.

Table 4.2

Descriptive Statistics of Parental Involvement

Variable	N	Mean (M)	Standard Deviation (SD)
Home-based Academic Support	435	3.58	0.67
Parent-Child Communication	435	3.6	0.66
Parental Expectations & Motivation Pressure	435	3.82	0.63
School-based Parental Participation	435	3.76	0.69
Parental Involvement	435	3.69	0.66

Correlation Analysis Between Parental Involvement and Student Outcomes

Table 4.3 shows a statistically significant positive correlation between overall parental involvement and student outcomes ($r = 0.71$, $p < 0.01$), indicating that higher levels of perceived parental involvement are associated with better student learning outcomes. The magnitude of the correlation coefficient suggests a strong relationship, highlighting the important association between parental involvement and student outcomes.

Table 4.3

Correlation Between Overall Parental Involvement and Student Outcomes

Correlations			
		Parental Involvement	Student Outcomes
Parental Involvement	Pearson Correlation	1	.71**
	Sig. (2-tailed)		< .01
	N	435	435
Student Outcomes	Pearson Correlation	.71**	1
	Sig. (2-tailed)	< .01	
	N	435	435

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

Correlations between Dimensions of Parental Involvement and Student Outcomes

Further analysis of the relationships between the dimensions of parental involvement and students' learning outcomes revealed that home-based academic support, parent-child communication, parental expectations and motivation pressure, and school-based parental participation were all significantly positively correlated with student outcomes ($p < 0.01$). Among these dimensions, home-based academic support and parent-child communication demonstrated relatively stronger correlations with students' learning outcomes, indicating that family-level support and interaction play a particularly salient role in students' learning development.

In addition, the dimension of parental expectations and motivation pressure was also significantly positively associated with students' learning outcomes, suggesting that moderate academic expectations are, to some extent, accompanied by higher levels of students' academic performance and learning engagement. School-based parental participation likewise showed a significant association with students' learning outcomes, reflecting the positive role of home-school interaction in students' learning processes. Together, the descriptive and correlational analyses systematically present the main empirical findings of this study. The results indicate that student outcomes were generally at a moderate level, while overall parental involvement was relatively high, with noticeable differences across involvement dimensions. Moreover, parental involvement, both at the overall level and across specific dimensions, was significantly positively associated with students' learning outcomes. These findings provide an important empirical foundation for subsequent discussions of the mechanisms through which parental involvement influences senior high school students' learning development.

Theoretical and Practical Contributions*Theoretical Contributions*

This study makes several theoretical contributions to the fields of family education and student development research. First, from a research perspective, this study focuses on senior high school students and systematically examines the relationships between multiple dimensions of parental involvement and students' learning outcomes, thereby addressing the relative lack of attention to family involvement mechanisms at the senior high school level in China. Previous studies have largely concentrated on primary or junior secondary education

or have emphasized single academic outcome indicators. By conceptualizing students' learning outcomes as a multidimensional construct encompassing academic achievement, learning engagement, and emotional well-being with school adjustment, this study enriches the theoretical understanding of student learning outcomes.

Second, this study provides empirical support for established theoretical frameworks of parental involvement. The findings indicate that overall parental involvement and its specific dimensions are significantly positively associated with student outcomes, offering empirical evidence in support of Epstein's Theory of Overlapping Spheres of Influence and the parental involvement model proposed by Hoover-Dempsey and Sandler. These results demonstrate that family factors remain important correlates of students' academic and emotional development during the senior high school stage. Moreover, the differentiated patterns of association observed across different forms of parental involvement highlight the multidimensional and complex nature of parental involvement.

Third, this study extends the applicability of parental involvement theories within a specific cultural context. By situating the research in public senior high schools in Wuhou District, Chengdu, the findings reveal close associations between parental expectations, home-based academic support, home-school interaction, and students' learning outcomes within an urban Chinese educational setting. This provides empirical evidence from the Chinese context to complement parental involvement theories that have largely been developed based on Western educational systems and contributes to the cross-cultural refinement and development of family education theories.

Practical Contributions

At the practical level, the findings of this study offer important implications for school administration, family education guidance, and educational policymaking. First, the significant positive association between overall parental involvement and student outcomes suggests that schools should regard parents as important partners in promoting students' academic performance and psychological adjustment. By establishing regular and structured home-school communication mechanisms, schools can guide parents to participate in their children's learning and development in a more scientific and rational manner, thereby fostering a collaborative educational environment between families and schools.

Second, the study highlights differentiated associations between specific forms of parental involvement and student outcomes, providing more targeted guidance for family education practices. The results indicate that home-based academic support and parent-child communication are closely related to student outcomes, suggesting that parents should place greater emphasis on daily academic support and emotional communication in addition to focusing on academic achievement. Schools and educational authorities may offer parent training programs and family education workshops to enhance parents' communication skills and help them maintain appropriate academic expectations while avoiding excessive pressure that may negatively affect students' emotional adjustment.

Third, at the level of school management and educational policy, the findings underscore the importance of home-school collaboration during the senior high school stage. The significant association between school-based parental participation and student outcomes

provides empirical support for expanding parental involvement channels. Schools may encourage parents to participate in parent meetings, school activities, and consultative decision-making processes, thereby enhancing parents' understanding of and identification with school educational goals and, in turn, strengthening students' learning engagement and sense of school belonging.

Conclusion

This study examined the relationship between parental involvement and student outcomes among public high school students in Wuhou District, Chengdu, using a cross-sectional questionnaire design. Student outcomes were conceptualized as a multidimensional construct including academic achievement, learning engagement, and emotional well-being and school adjustment, while parental involvement was measured across four dimensions based on students' perceptions. The results showed that perceived parental involvement was generally at a relatively high level and was significantly and positively associated with overall student outcomes as well as their specific dimensions. Among the different types of parental involvement, home-based academic support and parent-child communication demonstrated relatively stronger associations with student outcomes, underscoring the importance of supportive family interactions during the high school stage. Given the cross-sectional and self-report nature of the data, these findings should be interpreted as associations rather than causal effects, and future research is encouraged to adopt longitudinal or multi-informant designs to further clarify the role of parental involvement in adolescents' academic and psychosocial development.

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