A Study on the Collaborative Development of Mental Health and Teaching Quality of Primary and Secondary School Students in Ethnic Minority Areas from a K-12 Perspective

——Taking Xingren City as an Example

Yang Li [1*], Xiaolei Zhi [2], Ping Wang [3], Min Huang [4], Hongjuan Yang [5], Guanglan Zeng [6]

[1] School of Educational Sciences, Minzu Normal University of Xingyi, Guizhou 562400, China
[2] Xingren NO.6 Middle School, Xingren, Guizhou 562400, China
[3] Xingren NO.1 Middle School, Xingren, Guizhou 562400, China
[4] Xingren NO.1 primary School, Xingren, Guizhou 562400, China
[5] Wanxin primary School, Shijiazhuang, Hebei 050000, China
[6] Railway primary School, Yilong, Guizhou 562400, China

*Corresponding author: 14014772@qq.com

Abstract. This study takes 586 students and 72 teachers from primary, junior and senior high schools in Xingren City, Qianxinan Buyi and Miao Autonomous Prefecture, Guizhou Province as research objects, using questionnaire, interview and data analysis to explore the collaboration and development path between K-12 students' mental health and teaching quality. Results show a significant positive correlation ($r=0.62$, $p<.01$) with stage differences, and three major dilemmas: outdated concepts, disconnected mechanisms and insufficient resources. A four-in-one path of "concept reshaping – stage-specific measures – mechanism construction – resource guarantee" is proposed to support high-quality education development in ethnic minority areas.

Keywords: ethnic minority areas; K-12 stage; mental health; teaching quality; collaborative development

1 Introduction

China's 14th Five-Year Plan for County-level General High Schools emphasizes high-quality education in ethnic minority areas. Xingren City, Qianxinan Buyi and Miao Autonomous Prefecture, Guizhou Province, where ethnic minorities make up 60.0% of the population, faces educational constraints from geography and cultural differences. K-12 students experience distinct psychological pressures: adaptation issues in primary school, adolescent confusion in junior high school, and college entrance examination

S. Shamsudin et al. (eds.), *Proceedings of the 4th International Conference on Language and Cultural Communication (ICLCC 2026)*, Advances in Social Science, Education and Humanities Research 1025,
https://doi.org/10.2991/978-2-38476-597-3_29

stress in senior high school. A serious disconnection between mental health education and teaching practice persists, making their collaboration critical for local education [1].

Theoretically, this study enriches ethnic education and mental health research, builds a K-12 collaborative framework, and addresses the lack of targeted research on ethnic regions. Practically, it provides actionable strategies for local schools and policy references for Qianxinan Prefecture.

Adopting the logic of investigation, analysis, dilemma diagnosis and path construction, this empirical study uses questionnaires (650 student, 80 teacher, valid rates 89.9%, 90.0%, Cronbach's $\alpha > 0.8$), semi-structured interviews with 45 respondents, and SPSS 26.0 for data analysis.

2 Definition of Core Concepts

Ethnic minority areas specifically refer to Xingren City, Qianxinan Prefecture, which has the characteristics of cultural diversity and resource scarcity; the K-12 stage refers to students from grades 3 to 6 of X Primary School, grades 1 to 3 of Y Junior High School, and grades 1 to 3 of Z Senior High School in Xingren City; mental health covers four core dimensions: emotion regulation, stress coping, self-identity, and interpersonal adaptation; teaching quality includes four evaluation dimensions: academic performance, learning motivation, classroom participation, and teachers' teaching ability; collaborative development refers to a developmental state where mental health and teaching quality promote each other and maintain dynamic balance.

3 Current Situation of Mental Health and Teaching Quality of Primary and Secondary School Students in Xingren City

3.1 Overview of Research Objects

This survey selected 586 students (192 from X Primary School, 201 from Y Junior High School, 193 from Z Senior High School) and 72 teachers. Among the students, 78.3% are ethnic minorities (45.2% Buyi, 33.1% Miao), and 42.1% are left-behind children; among the teachers, 65.3% are ethnic minorities, and only 28.1% have received mental health training, which is consistent with the current situation of teachers in rural schools in ethnic minority areas [2].

3.2 Current Situation of Mental Health

The overall average score of mental health of primary and secondary school students in Xingren City is 3.3±0.6 (full score 5 points), which is at a medium to high level. The development of each dimension is unbalanced: the self-identity dimension has the highest score (3.5±0.6), reflecting the strong national pride of ethnic minority students; the emotion regulation dimension has the lowest score (3.0±0.6), indicating that students'

emotional management ability is generally weak. There are significant differences among different school stages: X Primary School (3.5±0.5) > Z Senior High School (3.2±0.6) > Y Junior High School (3.1±0.6). Among them, Y Junior High School has prominent problems of emotional fluctuations and interpersonal conflicts, and Z Senior High School has weak stress coping ability (3.0±0.7). In addition, the mental health level of left-behind children is significantly lower than that of non-left-behind children (t=3.2, p1), which is consistent with the conclusions of relevant studies [3]. "The self-identity dimension has the highest score (3.5±0.6), reflecting the strong national pride of ethnic minority students [4]."

3.3 Current Situation of Teaching Quality

The overall average score of teaching quality is 3.2±0.6, slightly lower than the mental health level. The teachers' teaching ability dimension has the highest score (3.4±0.6), reflecting the strong professional quality of teachers in ethnic minority areas; the learning motivation dimension has the lowest score (3.0±0.6), indicating that students' learning initiative is insufficient. The differences among different school stages are as follows: X Primary School (3.3±0.6) > Y Junior High School (3.2±0.6) > Z Senior High School (3.1±0.6). Z Senior High School has the lowest classroom participation (2.9±0.7), with obvious college entrance examination-oriented characteristics. In terms of dilemmas: 68.3% of teachers report insufficient educational resources, and 57.5% believe that textbooks are not sufficiently integrated with ethnic culture; only 32.5% of teachers are under 35 years old, and each school is equipped with only 0.8 full-time mental health teachers on average, which is consistent with the data in Qianxinan Prefecture's educational development plan.

4 Analysis of the Collaborative Relationship between Mental Health and Teaching Quality

4.1 Results of Correlation Analysis

At the K-12 level, there is a significant positive correlation between mental health and teaching quality (r=0.62, p<0.01), and the correlation coefficient is at a medium to strong level. At the dimension level: emotion regulation has the highest correlation with classroom participation (r=0.68, p.01), stress coping is significantly positively correlated with academic performance (r=0.59, p.01), and self-identity has a strong correlation with learning motivation (r=0.63, p<0.01), all consistent with theoretical expectations.

4.2 Characteristics of Inter-stage Collaboration

X Primary School shows foundational collaboration, and students' psychological qualities such as adaptability and interpersonal adaptation have a significant impact on

teaching quality (r=0.65, p<0.01); Y Junior High School presents restrictive collaboration, where adolescent psychological problems and traditional teaching methods restrict each other (r=-0.57, p01); Z Senior High School shows dilemma-based collaboration, and college entrance examination pressure leads to a negative correlation between stress coping ability and academic performance (r=-0.42, p1). The characteristics of each school stage are highly consistent with educational reality.

4.3 Key Influencing Factors

At the school level, teaching philosophy and curriculum settings directly determine the effect of collaboration; at the teacher level, mental health literacy and teaching ability are the core links (r=0.71, p); at the family-social level, home-school cooperation and resource supply provide external support (r=0.58, p), which is in line with the multi-layer interaction logic of the ecological systems theory.

5 Main Dilemmas of Collaborative Development

5.1 Outdated Concepts

63.5% of school administrators take "academic performance" as the core evaluation index, and only 21.8% attach importance to mental health; 82.6% of administrators in Z Senior High School focus on college entrance examination results; most schools lack K-12 collaborative planning, and different school stages develop independently with insufficient connection.

5.2 Disconnected Mechanisms

78.3% of schools carry out mental health education as an independent course, with insufficient integration with subject teaching, resulting in an "isolated island" problem; there is a lack of stage-specific collaborative strategies, failing to consider the differences in students' physical and mental development, and there is no communication and connection mechanism between school stages, leading to insufficient collaborative synergy.

5.3 Insufficient Resources

The mental health teacher team is weak, with 62.5% being part-time and lacking professional training; 45.8% of schools lack hardware resources such as psychological counseling rooms; ethnic characteristic teaching and psychological resources are scarce, and textbooks are not sufficiently integrated with Buyi and Miao cultures; the home-school-social collaborative network has not been established, and communication with left-behind children's families is difficult. “In addition, the mental health level of left-behind children is significantly lower than that of non-left-behind children (t=3.2, p<0.01), which is consistent with the conclusions of relevant studies [5].”

6 Improvement Paths for Collaborative Development

“To address the three major dilemmas identified in Section 5—outdated concepts, disconnected mechanisms, and insufficient resources—this study proposes three corresponding improvement paths [6].

6.1 Concept Reshaping: From Utilitarian to Holistic Education

The utilitarian view that prioritizes test scores over mental health (63.5% of administrators focus solely on academic performance) must be fundamentally changed. First, targeted training for administrators and teachers should use this study's findings (r=0.62 positive correlation) to demonstrate that mental health and teaching quality reinforce each other. School evaluation systems should be revised to include mental health indicators as core components, with K-12 collaborative planning becoming mandatory.

Second, ethnic cultural values should be integrated into concept reshaping. Given that 78.3% of students are from Buyi and Miao backgrounds, traditional values like collective harmony and resilience can be leveraged to strengthen students' already high self-identity (3.5±0.6) while boosting learning motivation. This culturally responsive approach breaks the false dichotomy between psychological well-being and academic achievement.

Third, to address the lack of K-12 articulation (Section 5.1), administrators from primary, junior, and senior high schools should participate in joint workshops to understand how psychological needs evolve across stages—adaptation issues in primary, adolescent confusion in junior high, and exam pressure in senior high.

6.2 Mechanism Construction: Integrating Mental Health and Teaching Across Systems

Currently, 78.3% of schools teach mental health as an isolated subject, and no communication mechanism exists between school stages. Mechanism construction must address three levels.

At the classroom level, the "Xingren City 'Mental Health-Teaching' Integration Guidelines" should be developed. For each subject, clear integration points will be identified: Chinese classes can analyze characters' emotions to build regulation skills; mathematics can explicitly teach frustration tolerance; physical education can develop interpersonal adaptation. Each lesson plan will include a psychological goal alongside academic objectives.

At the school level, a "Collaborative Development Committee" comprising mental health teachers, subject heads, and administrators should meet biweekly to review combined data on psychological status and academic performance. Crucially, cross-stage communication must be institutionalized through annual K-12 summits and "transition portfolios" that share student strengths across primary, junior, and senior high schools.

At the home-school-social level, given 42.1% left-behind children, a multi-channel platform combining monthly video calls, regular home visits, and community liaison roles (using respected Buyi and Miao elders) should be established. Linkages with local

mental health services will provide referral pathways for students with moderate to severe difficulties.

6.3 Resource Guarantee: Building Sustainable Capacity

Section 5.3 identified three critical shortages: weak teacher teams (62.5% part-time, only 28.1% trained), insufficient facilities (45.8% lack counseling rooms), and scarce ethnic teaching resources.

For teacher development, a three-year plan should be implemented: Year 1—mandatory 40-hour mental health certificate for all subject teachers; Year 2—recruit 10 additional full-time mental health teachers with incentives; Year 3—establish a "master teacher" program with stage-specific training (play therapy for primary, DBT techniques for junior high, exam stress management for senior high).

For infrastructure, each school stage should have age-appropriate facilities: emotional play rooms for primary, counseling spaces for junior high, and stress management centers for senior high. An online platform with self-help modules in Mandarin, Buyi, and Miao languages will serve left-behind children.

For culturally relevant resources, a supplementary series should be developed for each stage: illustrated ethnic hero stories for primary, adolescent case studies for junior high, and biographies of successful Buyi/Miao professionals for senior high. These resources simultaneously strengthen cultural identity and improve teaching quality.

For financial sustainability, the Xingren City education bureau should allocate at least 10% of its annual school improvement budget to mental health and collaboration initiatives, with ongoing data monitoring using this study's instruments to track progress.

7 Research Conclusions

There is a significant positive correlation between mental health and teaching quality of K-12 students in Xingren City (r=0.62, p.01), but with obvious inter-stage differences; the collaborative development of the two faces three major dilemmas: outdated concepts, disconnected mechanisms, and insufficient resources; the four-in-one path of "concept reshaping - stage-specific measures - mechanism construction - resource guarantee" can effectively solve the dilemmas and provide support for the high-quality development of education in ethnic minority areas.

Acknowledgments

Fund Project: Guizhou Provincial Education Science Planning Project & Guangdong-Guizhou Special Project"Practical Exploration of Experiential Group Psychological Counseling in Middle School Class Construction in Ethnic Minority Areas" , Project No.: 2024B163; Phased Research Findings of the Action Plan for Improving Basic Education Quality in Ethnic Areas of Guizhou Province.

References

1. Wang, Q. (2022). A predictive study of senior high school students' career planning status and ability on their academic achievement and mental health (Master's thesis). Southwest University, Chongqing, China. https://doi.org/10.27684/d.cnki.gxndx.2022.003627
2. Zhang, W., Zhang, W. Z., & Yuan, Z. K. (2018). Mental health status of primary and secondary school students in Guiyang. Chinese Journal of School Health, 39(8), 1214–1216. https://doi.org/10.16835/j.cnki.1000-9817.2018.08.042
3. Chu, T., Liu, X., Takayanagi, S., Matsushita, T., & Kishimoto, H. (2023). Association between mental health and academic performance among university undergraduates: The interacting role of lifestyle behaviors. International Journal of Methods in Psychiatric Research, 32(1), e1938. https://doi.org/10.1002/mpr.1938
4. Guo, S., & Li, Y. (2022). Academic performance and the link with depressive symptoms among rural Han and minority Chinese adolescents. International Journal of Environmental Research and Public Health, 19(10), 6026. https://doi.org/10.3390/ijerph19106026
5. Xu, Y., Chen, S., Ye, Y., Wen, W., Zhen, R., & Zhou, X. (2025). Childhood neglect, depression, and academic burnout in left-behind children in China: Understanding the roles of feelings of insecurity and self-esteem. Child Protection and Practice, 2, 100064. https://doi.org/10.1016/j.chipro.2024.100064
6. Zhang, L., & Wu, W. (2025). Evaluating mental health education in ethnic minority universities in China: A CIPP model approach. Frontiers in Psychology, 16, 1679742. https://doi.org/10.3389/fpsyg.2025.1679742