

Questionnaire Development and Current Status Research on Primary School Students' Psychological Construction

Wenhui Teng, Fangmei Liang*

School of Teacher Education, Hechi University, Hechi, Guangxi, China

**Corresponding Author*

Abstract: This research endeavors to construct a questionnaire for assessing the psychological construction of primary school students and to examine its current state. The study begins by establishing a theoretical foundation based on a two-dimensional framework of psychological construction, leading to the creation of an initial questionnaire. Subsequently, a random sample of 200 primary school students is selected as participants for item analysis, exploratory factor analysis, and reliability assessment. Following this, an additional cohort of 200 primary school students is chosen for confirmatory factor analysis and validity testing, culminating in the development of the final version of the questionnaire. Ultimately, this validated questionnaire is employed to conduct a survey of the psychological construction status of 400 primary school students. The findings reveal that: (1) The finalized questionnaire consists of 15 items categorized into five dimensions: overcoming negative mindsets, fostering positive mindsets, parental support in psychological construction, teacher support in psychological construction, and friends' support in psychological construction. The constructed questionnaire demonstrates commendable reliability and validity, positioning it as an effective tool for measuring psychological construction capabilities among primary school students. (2) The overall levels of psychological construction among primary school students are found to be satisfactory, with notable disparities in total scores, particularly concerning teacher and peer support across different grade levels.

Keywords: Psychological Construction; Primary School Students; Questionnaire Development; Reliability and Validity;

Current Status

1. Introduction

Over the past decade, the detection rate of psychological problems among students has remained alarmingly high, with a notable trend towards younger ages for these issues [1,2]. Previous research has primarily concentrated on identifying “psychological problems”, often overlooking the crucial processes involved in psychological construction. Nonetheless, maintaining mental health fundamentally requires a structured approach to fostering psychological construction.

The concept of “psychological construction” is an original idea unique to China, first articulated by Dr. Sun Yat-sen, who identified it as the foremost priority among the three critical areas of construction outlined in his *National Construction Strategy* [3]. In the years that followed, scholars have attempted to define psychological construction from various perspectives. Some researchers view it as a macroscopic approach to social psychological construction, while others focus on constructing mental health service systems at the mesoscopic level, emphasizing the establishment and enhancement of such services. Additionally, some scholars address the microscopic aspect, emphasizing the psychological construction of specific populations [4]. In this study, we define psychological construction as a holistic process through which individuals, guided by significant others and influenced by group dynamics, cultivate the ability not only to manage negative mindsets but also to nurture positive attitudes, facilitated by an effective psychological governance framework.

Psychological construction research can be systematically categorized into three main areas based on the target population. The first category is social psychological construction. Scholars in this field often anchor their studies in the contexts of social construction,

governance, and the resolution of social psychological issues. They advocate for the enhancement of psychological construction, proposing innovative strategies that address pressing societal needs. For instance, Wang Junxiu put forward the main path and content of social psychological construction [5]. Xin Ziqiang posits that this development constitutes a new direction for community governance, suggesting it should be elevated to a national strategic priority [6,7]. Zheng Jianjun further emphasizes the potential of big data to propel advancements in social psychological construction [8]. These researchers demonstrate a keen sensitivity to social realities, recognizing the critical necessity of psychological construction early on, and engaging in theoretical reflections on how social psychological methods can effectively contribute to improving governance in China. The second category focuses on the psychological construction of employees. Scholars examine the specific needs of various groups, such as railway workers, employees of state-owned enterprises, and teachers, proposing tailored strategies for their psychological construction. For example, Chi Shaoli believes that the psychological construction of railway workers should actively arouse their own intrinsic strengths and resources [9]. Chen Yijun et al. suggest that psychological construction in state-owned enterprises should aim to cultivate a positive corporate culture and establish supportive mechanisms for employees [10]. Kang Jiangmei offers strategies for promoting the psychological construction of new vocational school teachers, emphasizing the importance of assessing individual needs and fostering personalized interactions [11]. Collectively, these researchers identify the psychological construction requirements of specific groups and propose strategies that provide valuable insights for both research and practical applications. The third category pertains to the psychological construction of students, with a particular focus on vocational school students, college students, and graduate students. This body of research explores the roles, pathways, and challenges associated with psychological construction among these populations. For instance, it has been noted that enhancing the psychological construction of vocational school students can significantly improve their mental health [12]. Additionally,

initiatives within higher education institutions must prioritize fostering students' awareness of psychological responsibility, empathy, and cognitive skills, often through concrete examples and guided interventions [13]. Furthermore, by analyzing successful cases of psychological construction from universities in countries such as the United States, the United Kingdom, and Australia, researchers aim to establish relevant standards and practical guidelines that are applicable to the psychological construction of graduate students in China [14].

The exploration of psychological construction research reveals three notable issues and unique features. First, there exists a diverse array of interpretations regarding its conceptual implications. Some scholars approach the topic from a macro perspective, focusing on social psychological construction, while others concentrate on the micro level, emphasizing the psychological capacity building of specific populations. Second, the majority of research subjects tend to be university students and vocational school students, with a scarcity of studies addressing the psychological construction of primary school students. Given that primary school students are at a crucial stage of physical and psychological construction, it is imperative to intensify research on their psychological construction. Third, most studies on psychological construction are predominantly speculative in nature, with insufficient empirical research and a lack of measurement tools. Such tools are essential for conducting rigorous scientific research. In light of these gaps, this study centers on a group of upper-grade students from a primary school in Guangxi, China, utilizing a self-designed questionnaire on psychological construction to investigate their current psychological construction status.

2. Development of the Questionnaire on Psychological Construction for Primary School Students

2.1 Preparation of the Initial Questionnaire on Psychological Construction for Primary School Students

2.1.1 Development of items for the initial questionnaire on psychological construction
Based on a thorough review and critique of relevant psychological construction literature, a

theoretical framework was established utilizing a two-dimensional structure— “the individual and others” and “negative and positive”. Drawing upon literature reviews, interviews, and theoretical reflections, 42 preliminary items related to psychological construction were crafted. Subsequently, these items were refined based on feedback from three professionals in psychology as well as input from upper-grade primary school students, culminating in the creation of the initial questionnaire on psychological construction for primary school students.

2.1.2 Distribution of the initial questionnaire on psychological construction

In a selected primary school in Guangxi, a stratified sampling method was employed to choose 200 fifth and sixth-grade students as participants. The *psychological construction for Primary Students* questionnaire was then administered to these students, followed by data collection. After meticulously screening the completed questionnaires, a total of 170 valid responses were obtained, comprising 76 from male students and 94 from female students.

2.1.3 Item analysis of the initial questionnaire on psychological construction

The primary purpose of item analysis is to compute the Critical Ratio (CR) values to evaluate the discriminative power of the questionnaire items. This process aids in identifying and eliminating items that fail to meet established significance levels, thus ensuring the questionnaire’s validity and relevance. The analysis revealed that item P3 ($p=0.195$) did not reach significance and was consequently removed from further consideration. All other items achieved significance ($p<0.05$).

2.1.4 Exploratory factor analysis of the initial questionnaire on psychological construction

The exploratory factor analysis indicated a Kaiser-Meyer-Olkin (KMO) value of 0.80, confirming the suitability for factor analysis. From the rotated component matrix of the initial questionnaire on psychological construction (see Table 1), the association of each item with its respective factor can be observed.

2.1.5 Reliability analysis of the initial questionnaire on psychological construction

Building upon Table 1, a reliability analysis was conducted. The Cronbach's alpha values for Dimensions 1 to 7 were calculated as 0.81, 0.70, 0.75, 0.75, 0.74, 0.64, and 0.65, respectively.

Dimensions with a reliability coefficient exceeding 0.70 are considered acceptable. Therefore, only the first five dimensions were retained in this study.

2.2 Preparation of the Formal Questionnaire on Psychological Construction for Primary School Students

2.2.1 Composition of the items in the formal questionnaire on psychological construction

To ensure uniformity in the number of items across the first five dimensions and to reduce the workload for primary students, we engaged three professionals in psychology to refine the questionnaire. Each dimension was thus limited to three items, culminating in the formation of the official questionnaire on psychological construction for primary school students. A reliability analysis of this official questionnaire yielded a Cronbach's α of 0.86.

2.2.2 Distribution of the formal questionnaire on psychological construction

In a selected primary school in Guangxi, a stratified sampling method was employed to select 200 students to participate in the questionnaire survey, which included the compiled *psychological construction for Primary Students* and the *Mental Healthy Continuum-Short Form (teenager version)* developed by Yu Bing [15]. Upon screening, 20 invalid questionnaires were discarded, resulting in a total of 180 valid responses, comprising 91 from male students and 89 from female students.

2.2.3 Confirmatory factor analysis of the formal questionnaire on psychological construction

Using Mplus 8.3 software, the confirmatory factor analysis revealed that the fit indices for the official questionnaire on psychological construction were as follows: $X^2/df=1.33$, CFI=0.96, SRMR=0.05, RMSEA=0.04. These results indicate a satisfactory model fit, affirming its appropriateness for confirmatory factor analysis. The results of the analysis, along with the items contained within each dimension, are presented in Table 2.

2.2.4 Criterion Validity of the Formal Questionnaire on psychological construction

Using the *Mental Healthy Continuum-Short Form (teenager version)* as a criterion, the criterion validity analysis indicated a correlation coefficient of 0.706 ($p<0.001$) between the two instruments, underscoring the robust criterion validity of the formal questionnaire on

psychological construction for primary school students.

Table 1. Rotated Component Matrix of the Initial Questionnaire on Psychological Construction for Primary School Students

	1	2	3	4	5	6	7
P8	0.712						
P9	0.624						
P20	0.580						
P13	0.577						
P10	0.560						
P21	0.559						
P15	0.409						
P19	0.393						
P11	0.390						
P26	0.390						
P27	0.385						
P32		0.697					
P31		0.588					
P18		0.574					
P28		0.555					
P40			0.734				
P41			0.718				
P42			0.694				
P29			0.576				
P30			0.474				
P12			0.442				
P39				0.727			
P38				0.680			
P37				0.675			
P25				0.420			
P34					0.770		
P35					0.760		
P36					0.617		
P17					0.410		
P33					0.407		
P24						0.699	
P22						0.637	
P23						0.601	
P14						0.481	
P7						0.453	
P5							0.654
P3							0.563
P1							0.531
P4							0.485
P2							0.453
P16							0.423
P6							0.366

Table 2. Formal Questionnaire on Psychological Construction for Primary School Students

Dimension	Items
Overcoming Negative Mindsets	P1. I do not easily give up.
	P2. I promptly reflect on the lessons learned from failures.
	P3. I strive to rise above setbacks.
Fostering Positive Mindsets	P4. I cherish my life.
	P5. I can remain humble in victory and resilient in defeat.
	P6. I believe I can successfully accomplish any task.
Parental Support in psychological construction	P7. My parents regard my psychological health as more important than my academic performance.
	P8. My parents show concern for my psychological state, emotional fluctuations, and inner feelings.
	P9. My parents listen to me and provide understanding and support.
Teacher Support in psychological construction	P10. When faced with challenges, my teachers proactively communicate with me.
	P11. My teachers pay attention to my growth.
	P12. My teachers teach me methods and techniques for psychological adjustment.
Friends' Support in psychological construction	P13. Friends assist me during difficult times.
	P14. Collaborating with friends to solve problems always enlightens me.
	P15. The encouragement I receive from friends greatly uplifts my spirits.

3. Current Status of psychological construction among Primary School Students

3.1 Survey Distribution of the psychological construction Questionnaire

At a primary school in Guangxi, the questionnaire titled *psychological construction for Primary School Students* was administered through a stratified sampling method, targeting 400 students and successfully collecting 350 valid responses. Among these, 167 were male and 183 female; 203 were in the fifth grade, and 147 were in the sixth grade.

3.2 Descriptive Statistics of the Current Status of psychological construction

To investigate the current state of psychological construction among primary school students, a descriptive statistical analysis was conducted. The results revealed a total score of 58.50 (exceeding the theoretical median of 45). The scores for the dimensions were as follows: 11.97 for overcoming negative mindsets, 12.03 for fostering positive mindsets, 11.03 for parental support in psychological construction, 11.47 for teacher support in psychological construction, and 12.00 for friends' support in psychological

construction. Each dimension's score surpassed the theoretical median of 9, indicating that the level of psychological construction among primary school students is quite commendable.

3.3 Analysis of Differences in the Current Status of psychological construction

3.3.1 Comparison of gender differences

An independent samples t-test was employed to examine the differences in psychological construction between male and female students. The findings revealed that there were no significant gender differences in the overall scores or across the various dimensions of psychological construction ($p < 0.05$).

3.3.2 Comparison of grade differences

An independent samples t-test was conducted to analyze the differences in psychological construction between fifth and sixth-grade students. The results indicated that sixth-grade students scored significantly higher than their fifth-grade counterparts in overall psychological construction, as well as in dimensions related to teacher support and friends' support. However, no significant differences were observed between the two grades in the dimensions of overcoming negative mindsets, fostering positive mindsets, and parental support. The specific results are presented in Table 3.

Table 3. Comparison of Differences in Psychological Construction by Grade Level

Dimension	Grade Level	F	T	Significance
Overcoming Negative Mindsets	Fifth Grade	12.04	0.699	0.485
	Sixth Grade	11.86		
Fostering Positive Mindsets	Fifth Grade	11.87	-1.432	0.153

	Sixth Grade	12.25		
Parental Support in psychological construction	Fifth Grade	10.94	-0.587	0.557
	Sixth Grade	11.15		
Teacher Support in psychological construction	Fifth Grade	11.00	-3.656	p <0.001
	Sixth Grade	12.13		
Friends' Support in psychological construction	Fifth Grade	11.71	-2.173	0.031
	Sixth Grade	12.40		
Overall psychological construction	Fifth Grade	57.56	-2.129	0.034
	Sixth Grade	59.80		

4. Discussion and Recommendations

4.1 Scientific Validity of the Questionnaire for psychological construction Among Primary School Students

This study ensured the scientific rigor of the questionnaire development by strictly adhering to the standards and norms of psychometrics in crafting and validating the questionnaire on psychological construction for primary school students [16]. Three primary aspects contributed to the scientific validity of the questionnaire's formulation: First, the theoretical foundation of the questionnaire was clearly defined. The development of the questionnaire was based on the two-dimensional structure of psychological construction among primary school students, specifically the dimensions of "Individual and Others" and "Negative and Positive". Second, the developmental characteristics of primary school students were considered. The questionnaire items were designed to be easily understood and answered by students, and feedback and suggestions from the students themselves were incorporated, leading to the finalization of the official psychological construction questionnaire. Third, rigorous statistical and scientific analysis methods were employed. The preliminary questionnaire underwent item analysis, exploratory factor analysis, and reliability analysis, revealing high validity and discriminative power. Confirmatory factor analysis of the formal questionnaire indicated satisfactory fit indices, with $X^2/df=1.33$, $CFI=0.96$, $SRMR=0.05$, $RMSEA=0.04$, suggesting a good model fit. Furthermore, criterion validity analysis was conducted using the *Mental Healthy Continuum-Short Form (teenager version)* as a benchmark. Through these statistical analyses, the formal questionnaire on psychological construction for primary school students demonstrated robust reliability and validity.

4.2 Analysis of the Current Status of psychological construction Among Primary School Students

This study revealed that the psychological construction of primary school students at the school is commendable, with an overall score of 58.50 (exceeding the theoretical median of 45). Scores across all dimensions surpassed the theoretical midpoint by 9 points. This finding contrasts somewhat with previous research. Zhang Yin had previously noted that middle school students exhibit deficiencies in open-mindedness and lower levels of social intelligence, which contribute to poorer psychological construction [17]. This discrepancy may be attributed to the attentive support provided by teachers regarding the psychological dynamics of their students, alongside the egalitarian and encouraging communication that parents engage in with their children at home. Chen Yali also asserted during her research that the psychological construction of primary school students is in its nascent stages, positing that this development level is likely to enhance with age [18]. This study, employing independent samples t-tests, further revealed that sixth-grade students significantly outperformed fifth graders in total scores of psychological construction, as well as in aspects such as teacher and peer support for psychological construction, indicating an upward trajectory in psychological construction correlating with the students' advancing age.

4.3 Insights from the Research on the psychological construction of Primary School Students

This study has revealed that the support of parents, teachers, and friends plays a significant role in the psychological construction capacity of primary school students. Furthermore, there exists a strong correlation between students' ability to overcome negative psychological

states and cultivate positive psychological traits and the assistance provided by these key figures in their lives. This finding underscores the importance for parents and teachers to extend greater psychological care and emotional support to primary school students. They should practice active listening, demonstrating understanding and empathy towards the students' perspectives. Similarly, friendships should foster mutual support and encouragement to collaboratively overcome challenges. In addition to external support, it is imperative that students take initiative in training and prioritizing their own psychological construction. The combination of external encouragement and personal effort is essential for fostering psychological resilience, thereby creating a nurturing and healthy psychological environment.

4.4 Limitations and Future Directions of Research on psychological construction in Primary School Students

This study is limited to a specific type of school in Guangxi, China, and features a relatively small sample size, which may not adequately represent the psychological status of the broader population of primary school students. Additionally, employing a cross-sectional research design hinders the ability to reveal the dynamic processes involved in the psychological construction of these students over time. Future research could address the issue of sample representativeness [19] by employing more rigorous sampling methods to enhance the external validity of the findings. It would also be beneficial to conduct cross-cultural studies examining the development and capacities of psychological resilience in primary students from diverse cultural backgrounds, such as those from rural versus urban environments, or differing familial and educational contexts. This would allow for a more comprehensive verification of the questionnaires developed in this study across various cultural settings.

5. Conclusion

The maintenance of mental health among primary school students is fundamentally reliant on effective psychological construction. This study employed various methodologies to evaluate the newly developed questionnaire, yielding results that demonstrate its

commendable reliability and validity. As such, this questionnaire stands as a valuable instrument for measuring the psychological construction capacities of primary students, thus establishing a robust foundation for further scientific and systematic exploration in this field. The findings indicate that the psychological construction of primary students necessitates not only their active engagement in overcoming negative psychological states and cultivating positive ones but also the support and collaboration of three key figures: parents, teachers, and friends. This research provides essential pathways and insights for promoting the psychological construction of students.

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