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## Psychological Capital Status of Left-Behind Rural Children in China and Its Relationship with Mental Health

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### ABSTRACT

**Background:** The mental health of left-behind rural children of China has become a prominent social problem. At the same time, psychological capital has become a positive psychological resource to promote personal growth. However, the relationship between psychological capital and mental health of left-behind rural children has not been explored. **Method:** A total of 332 left-behind rural children were investigated using a questionnaire of psychological capital and mental health scale. The psychological capital status of left-behind rural children and its impact on mental health were analyzed. **Results:** (1) Left-behind rural children were found to have a psychological capital score of was  $3.16 \pm 0.56$ ; Gender, age, grade, and school style had no significant effect on psychological capital. (2) Left-behind rural children obtained a mental health score of  $2.21 \pm 0.5$  G and gender, age, grade, and school style had no significant effect on mental health. (3) A significant negative correlation is found between psychological capital and mental health scores of left-behind rural children. Regression analysis shows that psychological capital is negatively correlated with mental health scores. **Conclusion:** The psychological capital of left-behind rural children can positively predict their mental health, and thus developing the former can promote the latter.

### KEYWORDS

Left-behind rural children in China; psychological capital; mental health

## 1 Introduction

Left-behind children emerged as a special group with the “migrant economy”. The left-behind rural children of China have become a huge vulnerable group and a common concern of many parties [1]. Due to immature psychology, insufficient self-control, poor resistance to setbacks, and absence of parental care, more than 60% of left-behind rural children show different degrees of psychological problems [2]. They experience negative emotions, anxiety, solitude, depression, low self-esteem, interpersonal relationship disorder, and adjustment disorder. The mental health of such left-behind children has become a prominent social problem [3], attracting increasing research attention to provide examples and reference for its promotion [4,5].

Despite living in a disadvantageous family environment, many children can nevertheless develop positive abilities if they develop good psychological traits and responding abilities. Rather than showing psychological maladaptation, several left-behind children exhibit a positive trend of self-improvement [6]. On this basis, to explore and analyze the mental health of left-behind children from the perspective of



positive psychology is of constructive significance. Psychological capital was conceptualized by Luthans et al. [7] to refer to “the general and positive psychological state of development of an individual” and encompasses four elements: optimism, self-efficacy, resiliency, and hope [8]. Simultaneously, psychological capital is a state-like positive psychological capacity that falls between trait and state variables and is measurable and developable [8].

A review of literature show an emerging focus on the influence of psychological capital on mental health. These studies target poor college students, teachers, and soldiers in the army, who show that psychological capital can positively predict the mental health level [9,10]. The psychological capital of left-behind children refers to their positive psychological capacity in an adverse family environment, and plays a positive role in promoting their psychosocial adaptation and is an important variable in positive psychology [6]. However, at present, research on the psychological capital of left-behind children remains in its initial phase, and studies on the correlation between the psychological capital and mental health of left-behind rural children are even fewer. With the aim to better improve the mental health level of left-behind rural children and tap and utilize their positive strength, this study investigates and analyzes the *status quo* and traits of psychological capital of left-behind rural children, discusses and analyzes the impact of psychological capital on their mental health. Findings can serve as reference for subsequent studies.

## 2 Methods

A survey questionnaire was carried out with 500 pupils in Grades 4–6 in Xiangtan, Hunan Province as the study sample. Of 500 questionnaires, 473 valid responses were recovered with an effective recovery rate of 94.60%. Among these, data of 141 non-left-behind children were excluded in the analysis. Data of 332 left-behind rural children were analyzed, including 198 boys and 134 girls. Among these, 133 are in Grade 4, 83 in Grade 5, and 116 in Grade 6. The method and purpose of this survey was explained to the students and teachers prior to the research, and their consent were obtained. All participants responded to the survey on a voluntary basis.

### 2.1 Tools

1. General information questionnaire. This study used a self-compiled general information questionnaire with a total of five questions, which included gender, age, grade, schooling mode (including resident and non-resident), and parents' leaving (to screen whether the children were left-behind or not).
2. Psychological capital questionnaire [6]. Fan compiled the psychological capital questionnaire for left-behind rural children. The survey included 25 questions divided into five dimensions, namely, self-reliance and tenacity, sensibility and gratitude, optimism and sanguinity, tolerance and friendliness, confidence and gumption. Self-reliance and tenacity reflected the ability to consciously resist temptation, strive to handle problems independently, and show strong endurance in the face of difficulties and hardships. Sensibility and gratitude reflected the ability to understand the parents' leaving for work, empathize with their difficulties and hardships, and repay parents and other elders with actual deeds. Tolerance and friendliness reflected the ability not to negotiate over every ounce in interpersonal communication, but rather to entertain people with different characters, take the initiative to resolve conflicts, and treat others kindly. Optimism and sanguinity reflected the ability to be carefree in doing things, always consider the good in everything, quickly dismiss displeasure from their mind, and be resilient to frustration. Confidence and gumption reflected the ability to believe in one's abilities, have faith in the future, believe that efforts were beneficial to one's career, and work energetically to achieve the goal. The scale was scored using a 5-point Likert system, from “1 = totally agree” to “5 = totally disagree”. The scores of dimensions were calculated after

reversal of the answers of forward represented questions. A high score indicated high psychological capital level. The Cronbach  $\alpha$  of the questionnaire was 0.88 [6].

3. Mental health scale [11]. Wang et al. [11] prepared the mental health scale, which comprised 10 dimensions and 60 items used in this study. Each dimension included six items. The scale was scored using a 5-point Likert system. The total score of each subscale divided by six was the score of each item of the subscale. The sum of scores of all items was the total score of the scale, which when divided by 60, can yield the average score of each item. The average score indicated the symptoms of mental health, including mild (2–2.99), moderate (3–3.99), severe (4–4.99), and very severe (5).

## 2.2 Statistical Analysis

Data analysis was carried out using SPSS 21.0 software. The score was expressed as mean  $\pm$  SD. An independent sample *t*-test was used for the intergroup comparison of data and one-way ANOVA for the comparison of multiple variables. The correlation coefficient between psychological capital and mental health was calculated using Pearson correlation, and the direction of the relationship between the variables was calculated by multivariate linear regression.

## 3 Results

### 3.1 General Data of Research Objects

A survey questionnaire was carried out with 500 pupils in Grades 4–6 in Xiangtan, Hunan Province as the study sample. Of 500 questionnaires, 473 valid responses were recovered with an effective recovery rate of 94.60%. Among these, data of 141 non-left-behind children were excluded in the analysis. Data of 332 left-behind rural children were analyzed, including 198 boys and 134 girls. Among these, 133 are in Grade 4, 83 in Grade 5, and 116 in Grade 6. In terms of age, 14 were age 9, 127 were age 10, 116 were age 11, 72 were age 12, and 13 were age 13. Finally, 201 non-resident and 131 resident. See [Tab. 1](#) for details.

**Table 1:** General data of rural left-behind children (n = 332)

Variable	Category	Number	Percent (%)
Gender	Male	198	59.64
	Female	134	40.36
Age	9	14	2.71
	10	127	38.25
	11	116	34.94
	12	72	21.69
	13	3	0.90
Grade	Grade 4	133	40.06
	Grade 5	83	25.00
	Grade 6	116	34.94
Schooling mode	Non-resident	201	60.54
	Resident	131	39.46
Total		332	100.0

### 3.2 Psychological Capital of Left-Behind Rural Children

The items in the psychological capital scale of this study were scored using a 5-point Likert system, with a theoretical median of 3. The scores of all dimensions of psychological capital of left-behind rural children were above 3, indicating a better-than-average level. See [Tab. 2](#) for details.

**Table 2:** General psychological capital scale of left-behind rural children and score of each dimension (n = 332)

	M	SD	Minimum score	Maximum score
Self-reliance and tenacity	3.29	0.70	1.00	5.00
Sensibility and gratitude	3.25	0.72	1.00	5.00
Tolerance and friendliness	3.15	0.76	1.00	5.00
Optimism and sanguinity	3.05	0.79	1.00	5.00
Confidence and gumption	3.07	0.83	1.00	5.00
Total scores	3.16	0.56	1.00	5.00

Specifically, the psychological capital score of boys was  $3.18 \pm 0.58$  while that of girls was  $3.14 \pm 0.52$ . No statistically significant difference ( $t = -0.679, P = 0.497$ ). In terms of age, the scores of left-behind rural children aged 9 and 13 were the lowest, while those of left-behind rural children aged 10–12 were basically the same. No statistically significant difference was observed among left-behind rural children of different ages ( $F = 0.657, P = 0.622$ ). In terms of grade, the differences of the psychological capital scores of left-behind rural children in Grades 4–6 were not statistically significant ( $F = 0.195, P = 0.823$ ). In terms of schooling mode, the psychological capital score of non-resident left-behind rural children was  $3.14 \pm 0.53$ , slightly lower than that of resident children at  $3.19 \pm 0.60$ . However, the difference was not statistically significant ( $t = -0.814, P = 0.416$ ). See [Tab. 3](#) for details.

**Table 3:** Psychological capital of left-behind rural children

Variable	Classification	N	Percent (%)	Psychological capital	t/F	P
Gender	Male	198	59.64	$3.18 \pm 0.58$	-0.679	0.497
	Female	134	40.36	$3.14 \pm 0.52$		
Age	9	14	2.71	$2.95 \pm 0.52$	0.657	0.622
	10	127	38.25	$3.19 \pm 0.53$		
	11	116	34.94	$3.18 \pm 0.68$		
	12	72	21.69	$3.18 \pm 0.68$		
	13	3	0.90	$3.01 \pm 0.31$		
Grade	Grade 4	133	40.06	$3.15 \pm 0.52$	0.195	0.823
	Grade 5	83	25.00	$3.14 \pm 0.54$		
	Grade 6	116	34.94	$3.19 \pm 0.62$		
School way	Go to school	201	60.54	$3.14 \pm 0.53$	-0.814	0.416
	Lodging	131	39.46	$3.19 \pm 0.60$		
Sum		332	100.0	$3.16 \pm 0.56$		

### 3.3 Mental Health of Left-Behind Rural Children

The mental health score of boys was  $2.19 \pm 0.34$ , which was better than that of girls at  $2.34 \pm 0.29$ . However, the difference was not statistically significant ( $t = -1.320$ ,  $P = 0.188$ ). One-way ANOVA showed that left-behind rural children had no statistically significant difference in terms of mental health score by age ( $F = 0.448$ ,  $P = 0.774$ ) and in different grades ( $F = 0.384$ ,  $P = 0.682$ ). In terms of schooling mode, the mental health score of non-resident left-behind rural children was  $2.22 \pm 0.30$ , slightly higher than that of resident children at  $2.18 \pm 0.35$ . However, the difference was not statistically significant ( $t = 1.188$ ,  $P = 0.236$ ). See [Tab. 4](#) for details.

**Table 4:** Mental health of left-behind rural children

Variable	Classification	N	Percent (%)	Mental health	t/F	P
Gender	Male	198	59.64	$2.19 \pm 0.34$	-1.320	0.188
	Female	134	40.36	$2.34 \pm 0.29$		
Age	9	14	2.71	$2.20 \pm 0.36$	0.448	0.774
	10	127	38.25	$2.19 \pm 0.29$		
	11	116	34.94	$2.24 \pm 0.30$		
	12	72	21.69	$2.18 \pm 0.39$		
	13	3	0.90	$2.26 \pm 0.30$		
Grade	Grade 4	133	40.06	$2.21 \pm 0.29$	0.384	0.682
	Grade 5	83	25.00	$2.20 \pm 0.35$		
	Grade 6	116	34.94	$2.20 \pm 0.32$		
School way	Go to school	201	60.54	$2.22 \pm 0.30$	1.188	0.236
	Lodging	131	39.46	$2.18 \pm 0.35$		
Sum		332	100.0	$2.21 \pm 0.55$		

### 3.4 Correlation between Psychological Capital and Mental Health

The correlation between the overall psychological capital scale, all dimensions and mental health was analyzed using the Pearson correlation coefficient. The results showed that the total and dimension scores of psychological capital score had significant negative correlations with the mental health score (both  $P = 0.000$ ). A high mental health score indicated low mental health level, and high psychological capital indicated high mental health level. See [Tab. 5](#) for details.

### 3.5 Regression Analysis

Through a regression analysis based on the above correlations, the causality between and the relationship direction variables can be determined. In this study, the causality between variables in the model was analyzed using multivariate linear regression. Based on the model, a regression analysis was carried out on gender, schooling mode, age, grade, resident/non-resident, psychological capital, and mental health. The results showed that gender, age, grade, and school mode of left-behind rural children had no significant impact on their mental health, while psychological capital was significantly negatively correlated with their mental health. That is, high psychological capital indicated high mental health level. See [Tab. 6](#) for details.

**Table 5:** Correlation between mental health and psychological capital of left-behind rural children (N = 332)

	Self-reliance and tenacity	Sensibility and gratitude	Optimism and sanguinity	Tolerance and friendliness	Confidence and gumption	Psychological capital
Obsessive compulsive	-0.270**	-0.241**	-0.167**	-0.137*	-0.112*	-0.247**
Paranoid Ideation	-0.287**	-0.259**	-0.221**	-0.225**	-0.183**	-0.317**
Hostility	-0.105	-0.244**	-0.137*	-0.144**	-0.128*	-0.205**
Interpersonal Sensitivity	-0.352**	-0.309**	-0.218**	-0.272**	-0.188**	-0.360**
Depression	-0.249**	-0.277**	-0.270**	-0.212**	-0.262**	-0.344**
Anxiety	-0.134*	-0.241**	-0.241**	-0.218**	-0.274**	-0.304**
Academic Stress	-0.205**	-0.210**	-0.251**	-0.205**	-0.187**	-0.287**
Maladaptation	-0.324**	-0.222**	-0.181**	-0.215**	-0.247**	-0.322**
Emotional Imbalance	-0.317**	-0.315**	-0.235**	-0.224**	-0.241**	-0.359**
Psychological Imbalance	-0.255**	-0.203**	-0.176**	-0.168**	-0.220**	-0.277**
Mental Health	-0.464**	-0.468**	-0.391**	-0.377**	-0.381**	-0.563**

Note: \*Significantly correlated at the 0.05 level (two-tailed).

\*\*Significantly correlated at the 0.1 level (two-tailed).

**Table 6:** Results of regression analysis of all variables of left-behind children and mental health

Model	Non standardized coefficient		Standard coefficient	t	P
	B	Standard error	Beta		
(Constant)	3.034	0.239		12.711	0.000
Gender	0.035	0.030	0.054	1.176	0.240
Age	0.026	0.030	0.072	0.884	0.377
Grade	-0.022	0.030	-0.060	-0.746	0.456
Schooling mode	-0.027	0.030	-0.041	-0.907	0.365
Psychological capital	-0.320	0.026	-0.558	-12.218	0.000

Note: <sup>a</sup> Dependent: mental health.

## 4 Discussion

### 4.1 Status Quo of Psychological Capital of Left-Behind Rural Children

The above results show that both total psychological capital score and average scores of five dimensions of left-behind rural children were better than average. The findings were consistent with those of Fan et al. [12], wherein a total of 696 left-behind rural children were investigated using the same psychological capital questionnaire. The results indicated that whether only the father or both parents left, the average scores of

all dimensions of left-behind rural children were above 3.3 and better than average [12]. Fan et al. [13] posited that despite their vulnerability in the development and process of family system functions, left-behind children still showed self-reliance, self-improvement, and good trends in learning, behavior, and mental health. This result was called the psychological capital of left-behind children, which overall was better than average.

Specifically, no significant difference was found among different genders of left-behind children in psychological capital score, which was consistent with the findings of Wei [14]. The basic living environment of left-behind rural children, whether for boys or girls, was roughly the same. Their poor family system functions were formed because their parents had to leave for work, due to the low socio-economic status of the families [15]. This result was also consistent with previous findings on psychological capital, that is, total psychological capital had no significant difference between males and females [16]. In age and grade, no significant difference among left-behind rural children in different age groups, which conflicted with the results of Sun et al. [17] on ordinary middle school students, who reported significant differences of psychological capital among left-behind rural children in different grades, with students in senior two had the highest scores. However, no research had been found on the differences in the psychological capital of left-behind children in rural primary schools related to grade and age. This topic warranted further investigation given that the questionnaire adopted in the present study was different from that in Sun et al. [17]. In addition, the present results showed that non-resident students and resident students were not significantly different in terms of psychological capital. This finding is consistent with previous results that resident students, especially young children in rural areas, had lower sense of security than non-resident students; however, the influence of family factors on the sense of security of young children was insignificant, partly owing to the psychological resilience of young children [18]. Psychological resilience was an important aspect of psychological capital. Thus, psychological capital among left-behind children adopting different schooling modes showed no significant difference.

#### ***4.2 Status Quo of Mental Health of Left-Behind Rural Children***

The results showed that no significant difference in the mental health of left-behind rural children in terms of gender. The mental health level of left-behind rural children was reported lower than that of normal children [19–21]. However, in recent years, few studies focus on the gender differences in mental health of left-behind rural children. Qiao et al. [22] and Ying et al. [23] discovered that the mental health of left-behind rural girls was significantly lower than that of boys. However, previous studies on the gender difference in mental health pointed out that females expressed negative emotions more positively than males [24] and were more inclined to use the deep emotion regulation strategy of cognitive reappraisal [25]. Thus, the mental health level of females was higher than that of males, even in the adolescent group. However, the present study did not find such differences between males and females. Thus, the mental health of left-behind rural children may vary with gender or be affected by other factors, which warranted further exploration. In addition, no significant difference in the mental health was found among left-behind rural children related to age and grade. This finding is inconsistent with those of Jin et al. [26] who also investigated pupils in Grades 4–6, but found that the mental health level of senior students was significantly lower than that of junior students. The possible reason may be associated with the higher life and academic stress perceived by senior students [27]. However, the present study showed no differences in terms of grade and age. This inconsistency may be attributed to the differences in measuring tools and research objects, which can be further investigated in future research. Finally, non-resident and resident students showed no significant difference in mental health. Previous studies indicated that among family factors that influenced the mental health of resident students, positive family functions, such as parental emotional warmth and good parent–child interaction were crucial [28]. However, left-behind children had parent(s) that left rural areas to be migrant worker(s) [29], and thus had similar family environments of non-resident or resident left-behind children. Their perceived parental

emotional warmth, care, and concern were also similar. Thus, left-behind children in either residence type showed no significant difference in terms of mental health.

#### **4.3 Influence of Psychological Capital of Left-Behind Rural Children on Mental Health**

The results showed that both the total score and all dimensions of psychological capital of left-behind rural children had negative correlations with mental health, that is, high psychological capital indicated high mental health level. In addition, the results of regression analysis suggested that psychological capital can significantly negatively predict mental health level, supporting the conclusion that psychological capital was a protective factor of individual mental health [9,30–32]. Chen et al. [33] investigated 1,058 freshmen to examine the relationship between their adaptation to school life, psychological capital, and mental health. The results showed that psychological capital was an important variable to predict school adaptation and mental health. Zhang et al. [34] also pointed out that psychological capital was an important antecedent variable that affected the mental health of adolescents. Peng et al. [35] investigated 796 left-behind children and found that their psychological resilience can significantly negatively predict their mental health level, an effect that was more direct than that of emotional problems. Psychological resilience was an important aspect of psychological capital, which indirectly demonstrated its important effect on mental health. In the present study, the psychological capital questionnaire for left-behind children included five dimensions, namely, self-reliance and tenacity, sensibility and gratitude, tolerance and friendliness, optimism and sanguinity, and confidence and gumption. All five dimensions were significantly negatively correlated with mental health. Self-reliance and tenacity and confidence and gumption represented resiliency, self-efficacy, and hope in psychological capital. When an individual ran into a difficulty or setback, his/her psychological resilience level had a significant impact on his/her perceived stress and mental health [36]. Self-efficacy and hope not only directly affected the physical and mental health of individuals, such as depression and anxiety, but also their emotion perception, thereby further influencing their mental health [37]. Sensibility and gratitude represented the appreciation and thanks that left-behind children expressed for the selfless dedication of their parents or others. This positive perception could stimulate positive emotions in left-behind children to a certain extent, enabling them perceive the positive side even in an adverse living environment, thereby reducing their living stress and promoting their mental health level [6]. According to the basic viewpoint of social information processing theory, individual psychology and behavior not only hinged upon realistic stimulus but was more influenced by individual cognitive and emotional factors [38]. In this regard, even if the living environment of left-behind children, such as the family atmosphere, parental upbringing, and socio-economic status, was inferior to that of normal children, positive psychological capital not only helped them examine the current state from a positive perspective, but also to buffer against the stress and impact brought by negative events in life with a positive mindset and sentiment, thereby improving their mental health level [1]. Furthermore, Luthans et al. [8] defined psychological capital as a core psychological element of individual initiative, which determined how individuals integrated other psychological resources to achieve self-consistency and congruence. All components of psychological capital often worked together and the overall effect was greater than the sum of its parts [39]. Thus, as far as left-behind children were concerned, their low score in optimism and sanguinity or low score in confidence and gumption would not jeopardize the positive influence of overall psychological capital on their mental health. However, this study merely investigated the relationship between the psychological capital and mental health of left-behind rural children. The influence of different dimensions of psychological capital on mental health can be further explored and compared in the future.

#### **5 Conclusion**

This study analyzes the *status quo* of psychological capital of left-behind rural children and investigates the influence of psychological capital on the mental health of left-behind rural children. The results show



that: (1) the psychological capital score of left-behind rural children was better than average and gender, age, grade, and resident/non-resident status have no significant impact on the psychological capital of left-behind rural children. (2) Left-behind rural children have mental health problems and gender, age, grade, and resident/non-resident status have no significant impact on their mental health. (3) The total score and five dimensions of the psychological capital of left-behind rural children are negatively correlated with the score of mental health. That is, high psychological capital of left-behind children indicates high mental health level, which suggests that developing the former can improve the latter.

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**Conflicts of Interest:** The authors declare that they have no conflicts of interest to report regarding the present study.

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