

Understanding Mental Health of Urban Adolescents: An Explanatory Study on Primary School Students

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Abstract

To understand the mental health status of primary school students in urban villages in Shenzhen, the Mental Health Diagnostic Test (MHT) for Primary and Secondary School Students was used to conduct psychological tests on 565 students in grades 4-6 using the school psychological assessment system. The test measures the student's psychological state from eight aspects: learning anxiety, anxiety about people, loneliness tendency, self-blame tendency, allergy tendency, physical symptoms, fear tendency, and impulsive tendency. The test results show that the mental health status of students in grades 4-6 is generally good, and the warning students account for 6.0% of the number of people tested. The three items with the highest detection rates are learning anxiety, allergy tendencies, and self-blame tendencies. The school pays special attention to the student's mental health status being warned and puts forward targeted suggestions, achieving good results.

Keywords: Primary school students; mental health; China; Survey; MHT.

1. Introduction

Over the past three decades, China's economic reform has given rise to unprecedented levels of rural-to-urban migration. According to the 2010 National Population Census, an estimated 221.43 million rural residents have relocated from the largely poor, agriculture-dominated rural areas of the western and central inland provinces to cities in the eastern coastal region, such as Beijing, Shanghai, Guangzhou, and Shenzhen, in search of better job opportunities (China National Bureau of Statistics, 2011). The rural-to-urban migrant population increased by 82.89% between the 2000 and 2010 censuses (Cheung, 2013). China is a middle-income country with the world's second-largest youth population and growing urban-rural economic inequalities. Though the country's economic development has improved some pediatric health disparities, such as malnutrition and stunting, youth mental health disparities are under-addressed. Recent publications showed a concerning high prevalence of substance use, anxiety, low self-esteem, and poor social support in rural youth (She *et al.*, 2002). The causes are complex.

Whether students can develop physically and mentally healthily is related to improving the nation's quality and the rise and fall of the country in the future. Strengthening the psychological health guidance of primary school students and preventing the occurrence of mental illness are issues that cannot be ignored. Moreover, primary school students are in a critical physical and mental development period and have remarkable plasticity. Doing a good job in psychological health guidance for primary school students can play a good preventive role and is an essential part of preventing and treating mental illness. Due to special historical reasons, many urban villages have emerged in Shenzhen, and many migrant workers rent in urban villages. When going out to work daily, there is little time to supervise children, and older people at home supervise many children's daily lives. It can be said that these children are "left-behind children" with their parents around. As a particular group, these children living and going to school in urban villages are enormous in number, and their mental health deserves our attention. To do a more targeted job in the mental health work of these students, a mental health survey was conducted on primary school students in grades 4-6 in a primary school in Longgang District, Shenzhen, to understand the current status of these students' mental health and formulate corresponding countermeasures. This study is (1) to examine the prevalence in the overall and each dimension of mental health of adolescents from the urban Shenzhen community (2) to compare these measures between our sample.

2. Research Methodology

We used cross-sectional data collected by the authors from students ages 12–14 in rural (Guizhou is the name of the place the study was conducted and 2022 is the year of data collection), primary school students from grades 4 to 6 were divided into classes for the test. We randomly selected two classes from each school (cluster randomization) with 50 students each. All parents and guardians of the participating students permitted their participation and signed the written consent form. A total of 565 questionnaires were distributed, 565 questionnaires were collected, and 5 questionnaires were invalid. The effective rate of the collected questionnaires was 99.1%.

3. Measurements

The students were tested online using the "Mental Health Diagnostic Test (MHT) for Primary and Secondary School Students". This scale was revised by Professor Zhou Bucheng of the Department of Psychology at East China Normal University and other psychology researchers based on the "Anxiety Tendency Diagnostic Test" compiled by Suzuki Kiyoshi et al. in Japan, and has high reliability and validity. This scale measures the two aspects of the object of anxiety and the behavior caused by anxiety. This scale includes 8 content scales, namely learning anxiety, anxiety about people, loneliness tendency, self-blame tendency, allergy tendency, physical symptoms, fear tendency, and impulsive tendency. The total score of the scale indicates the degree of general anxiety of a student.

The standard score of each subtest is added together to get the standard score of the entire test. The standard score of the entire test >65 points: the student's overall emotional state is not good, the anxiety is serious, there is adaptation disorder, and special counseling is needed. The standard score of the entire test ≤65 points: the student's overall emotional state is normal, but further understanding of the scores of each subtest is needed. Explanation of each subtest: If the standard score of a subtest is ≥8, it is a high score, which means that the student has troubles or obstacles in this area and needs special guidance. If the standard score is less than 8, it means that the student is normal in this area.

4. Findings and Discussion

(I) Overall situation of students

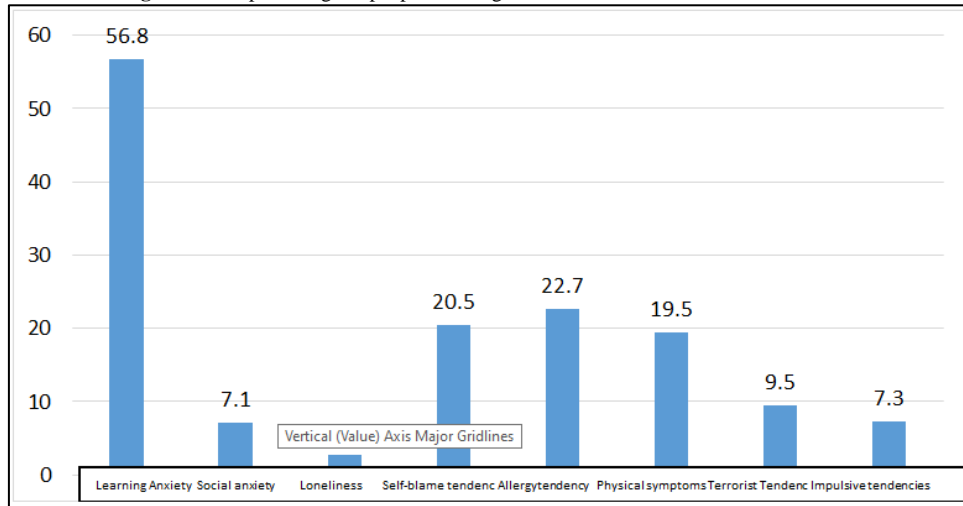
After investigation, it was found that there were 34 students on warning (warning students refer to those with a total score greater than 65 points), accounting for 6.0% of all students tested. Compared with existing studies, Beijing (5.72%, 1999) and Shanghai (25.4%, 2004) show that the mental health level of our students is generally good.

Table-1. Overall situation of students tested in this school

Study	Total score	Learning Anxiety	Social anxiety	Loneliness	Self-blame tendency	Allergy tendency	Physical symptoms	Terrorist Tendency	Impulsive tendencies
Mean	39.63	7.82	4.01	2.47	4.86	5.48	4.73	3.30	2.99
Number of participants	526	242	520	545	445	433	451	507	519
Percentage of people with a normal level	93.9	43.2	92.9	97.3	79.5	77.3	80.5	90.5	92.7
High score number	34	318	40	15	115	127	109	53	41
Percentage of people with high scores (detection rate)	6.1	56.8	7.1	2.7	20.5	22.7	19.5	9.5	7.3

The standard score of each factor scale is ≥8 points, indicating that the psychological problem in this aspect is more serious. The highest detection rate (score ≥8 points on a certain factor) in our school is learning anxiety, accounting for 56.8%, followed by hypersensitivity and self-blame tendency.

Figure-1. The percentage of people with high scores in total score and each dimension



(II) Situation of students of different genders

The effective number of participants in this test is 350 boys and 210 girls.

Table-2. Overall situation of students tested by gender

		Total score	Learning Anxiety	Social anxiety	Loneliness	Self-blame tendency	Allergy tendency	Physical symptoms	Terrorist Tendency	Impulsive tendencies
Male	Mean	37.73	7.53	3.84	2.51	4.59	5.20	4.50	2.81	2.69
	Normal number of people	329	169	324	338	286	274	289	328	331
	Percentage of people with normal level	94.0	48.3	92.6	96.6	81.7	78.3	82.6	93.7	94.6
	High score number	21	181	26	12	64	76	61	22	19
	The percentage of high scorers	6.0	51.7	7.4	3.4	18.3	21.7	17.4	6.3	5.4
Female	Mean	42.81	8.31	4.29	2.40	5.30	5.93	5.12	4.11	3.50
	Normal number of people	197	73	196	207	159	159	162	179	188
	Percentage of people with normal level	93.8	34.8	93.3	98.6	75.7	75.7	77.1	85.2	89.5
	High score number	13	137	14	3	51	51	48	31	22
	The percentage of high scorers	6.2	65.2	6.7	1.4	24.3	24.3	22.9	14.8	10.5

Table-3. Comparison of the total scores and dimensions of students of different genders

	Gender	Mean	SD	t	p
Total score	Male	37.72	16.935	-3.669***	.000
	Female	42.79	15.129		
Learning Anxiety	Male	7.54	3.811	-2.482*	.013
	Female	8.28	3.157		
Social anxiety	Male	3.85	2.387	-2.082*	.038
	Female	4.27	2.330		
Loneliness	Male	2.50	2.129	.457	.648
	Female	2.42	1.902		
Self-blame tendency	Male	4.58	2.712	-3.083**	.002
	Female	5.31	2.657		
Allergy tendency	Male	5.20	2.624	-3.502**	.001
	Female	5.93	2.271		
Physical symptoms	Male	4.49	3.185	-2.303*	.022
	Female	5.13	3.188		
Terrorist Tendency	Male	2.81	2.576	-5.575***	.000
	Female	4.10	2.794		
Impulsive tendencies	Male	2.68	2.528	-3.560***	.000
	Female	3.50	2.761		

Note: *p<0.05, **p<0.01, ***p<0.001

As can be seen from Table 3, through the difference significance test, it is found that except for the loneliness tendency, there are significant differences between boys and girls in the total score and other items, and the average

scores of girls are higher than boys. Except for girls, whose average score in learning anxiety is greater than 8 points, in terms of other factors and total scores, the levels of both boys and girls are at normal levels. It shows that girls generally have higher learning anxiety.

(III) Grade situation

There were 191 fourth-grade students, 191 fifth-grade students, and 178 sixth-grade students in this test. The results are shown in Table 4.

Table-4. Overall situation of students tested in each grade

Grade		Total score	Learning Anxiety	Social anxiety	Loneliness	Self-blame tendency	Allergy tendency	Physical symptoms	Terrorist Tendency	Impulsive tendencies
fourth grade	Mean	40.69	7.95	4.18	2.59	5.11	5.48	4.83	3.53	2.74
	Normal number of people	182	77	181	189	149	151	156	174	183
	Percentage of people with normal level	95.3	40.3	94.8	99	78	79.1	81.7	91.1	95.8
	High score number	9	114	10	2	42	40	35	17	8
	The percentage of high scorers	4.7	59.7	5.2	1.0	22.0	20.9	18.3	8.9	4.2
Fifth grade	Mean	39.34	7.80	3.86	2.54	4.56	5.49	4.79	3.22	3.10
	Normal number of people	175	81	175	183	153	150	150	174	172
	Percentage of people with normal level	91.6	42.4	91.6	95.8	80.1	78.5	78.5	91.1	90.1
	High score number	16	110	16	8	38	41	41	17	19
	The percentage of high scorers	8.4	57.6	8.4	4.2	19.9	21.5	21.5	8.9	9.9
Sixth Grade	Mean	38.83	7.71	3.98	2.26	4.90	5.46	4.58	3.13	3.15
	Normal number of people	169	84	164	173	143	132	145	159	164
	Percentage of people with normal level	94.9	47.2	92.1	97.2	80.3	74.2	81.5	89.3	92.1
	High score number	9	94	14	5	35	46	33	19	14
	The percentage of high scorers	5.1	52.8	7.9	2.8	19.7	25.8	18.5	10.7	7.9

Analysis of variance was conducted on the total scores and dimensions of different grades and found that there was no significant difference between grades ($p>0.05$).

(IV) Specific information of students under warning

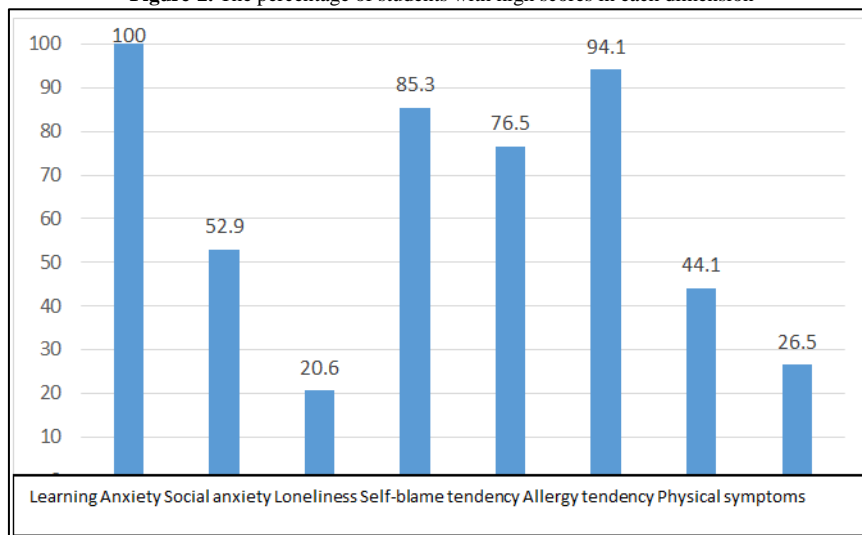
Among the 34 students under warning, there are 21 boys and 13 girls. There are 9 fourth-grade students, 16 fifth-grade students, and 9 sixth-grade students. The mean scores of the students under warning in individual dimensions and total scores are shown in Table 5.

Table-5. Mean scores of the total scores and dimensions for the students with warning and all students

项目	总分	学习焦虑	社交焦虑	孤独倾向	自责倾向	过敏倾向	身体症状	恐怖倾向	冲动倾向
全体学生均值	39.63	7.82	4.01	2.47	4.86	5.48	4.73	3.30	2.99
预警学生均值	71.12	12.50	7.29	5.74	8.53	8.53	10.50	6.76	6.85

Table-6. Proportion of students with warning in each dimension

项目	总分	学习焦虑	社交焦虑	孤独倾向	自责倾向	过敏倾向	身体症状	恐怖倾向	冲动倾向
预警学生高分频次	34	34	18	7	29	26	32	15	9
所占百分比	100	100	52.9	20.6	85.3	76.5	94.1	44.1	26.5

Figure-2. The percentage of students with high scores in each dimension

It can be seen from Table 6 and Figure 2 that among the 34 students who were warned, every student had learning anxiety, followed by physical symptoms, self-blame tendency and allergic tendency.

VI. Countermeasures

(I) For all students being tested

1. Make full use of mental health classes to improve students' mental health

According to the survey results, the three items with the highest detection rates among our students are learning anxiety, allergic tendency, and self-blame tendency.

In the mental health class, special tutoring classes are designed to allow students to learn these aspects in a targeted manner, master certain adjustment methods, and eliminate students' anxiety. For example, for learning anxiety, students are given courses such as scientific learning methods, good learning motivation, and methods to relieve anxiety to reduce their learning anxiety; for allergic and self-blame tendencies, students are explained the correct way to get along with others, how to reasonably release pressure, and regulate emotions.

At the same time, group psychological counseling activities are carried out, and students are allowed to explore themselves, enhance understanding, and release pressure through activities such as "Hundred Flowers Blooming in the Garden", "Mixed Plasticine", "Breaking the Comfort Zone", and "Love at Fingertips".

2. Pay attention to guiding students in the work of the class teacher

In educating students at ordinary times and communicating with parents, the class teacher should pay attention to these characteristics of students and carry out targeted student education. Some key students can communicate with parents and conduct joint education. At the same time, class teachers are trained in mental health knowledge, their mental health knowledge structure is updated, and they are taught self-regulation methods and methods to deal with students' psychological crises and emergencies.

In terms of learning anxiety, class teachers are encouraged to appropriately relieve students' stress so that students can correctly understand and view exams. Regarding allergic tendencies and self-blame tendencies, class teachers should pay attention to the language of students' evaluation in their daily education and promptly guide them. More attention should be paid to guidance, especially for students with high scores in these two areas, and random education should be provided. At the same time, class meetings can be used to educate and guide students in these aspects.

3. Effective use of home-school communication

The high detection rate of students in these aspects is closely related to parents' parenting style. It is far from enough to just work hard on students, and parent work must also be done well. The school regularly organizes parent lectures to let parents understand the psychological development characteristics of students, communicate correctly with their children, regulate their emotions, and raise children scientifically. Take advantage of parent meetings and home visits to update parents' parenting concepts and provide parents with scientific education methods.

4. Give full play to the role of "Mental Health Education Month"

Use the opportunity of the Mental Health Education Month activities to carry out a variety of activities, such as psychological garden activities, psychological drama performances, watching psychological movies, psychological hand-written newspaper competitions, psychological blackboard newspaper competitions, etc., to create a campus atmosphere, let students actively participate and pay attention to mental health.

(II) For students on warning

This time, 34 students on warning were included. Among them, 21 were boys and 13 were girls. There were 9 fourth-grade students, 16 fifth-grade students, and 9 sixth-grade students. Students with a total score of more than 65 points are students on warning. Students on warning may have high scores on certain factors.

Through interviews with some students on warning and further understanding with the class teachers, the psychological teacher found that these students can be divided into two categories: one is students who usually give teachers and parents a "headache". Such students can usually show some obvious emotional and behavioral

reactions. The other is "good students" in the eyes of teachers and parents. These students often have good academic performance; they usually seem to have a good relationship with their classmates and are very optimistic. But precisely because they are good children in the eyes of teachers and parents, these primary school students usually have high demands on themselves, which invisibly puts a lot of pressure on them, and they are unwilling to tell others. For the time being, they cannot find a suitable way to release pressure, so they show a certain degree of anxiety. Take the following measures for this situation:

1. Convene the parents of the students on warning to hold a parent meeting.
2. Let parents know the situation in time, do a good job of parent work, point out that students need guidance in certain aspects, and do a good job of counseling, which is more conducive to the healthy growth of students' physical and mental health.
3. The psychological teacher communicates with the class teacher to discuss the key assistance student counseling plan.
4. The psychological teacher conducts group psychological counseling for the warning students.

Because these two types of students have similar psychological problems and lack of skill guidance when dealing with problems, combined with the development of mental health education in our school, it is recommended to use club classes or 4:30 classes to conduct group psychological counseling for these students every week.

5. According to the results of group psychological counseling, individual counseling will be conducted at any time, and referrals will be made if necessary.

Because the second type of "good children" students only lack methodological guidance, group psychological counseling can solve the problem faster. For the first type of students, in addition to group psychological counseling, individual psychological counseling should be conducted, and even some psychological assessments should be conducted to find the root of the students' problems. Communicate with parents promptly. If there is a need to go to a professional institution for treatment, refer them promptly and inform the parents of the results.

5. Conclusion

Currently, intervention has been carried out according to the response measures. According to the feedback from the class teacher and parents, the students have made significant progress in emotional regulation and behavioral performance. The interviews with the early warning students found that the psychological pressure has been relieved, and they have mastered specific methods of regulating emotions and coping with difficulties. Next, these students will be further paid attention to and followed up to test the implementation effect. Thus, further studies are required to assess the positive mental health of adolescents in other geographical areas of China and areas of different socio-economic status. Future longitudinal studies should focus on investigating relevant causality and potential bidirectional associations. To improve positive mental health among Chinese adolescents, policymakers should focus on strategies and actions that support social trust and support and acknowledge families' support and socioeconomic status as significant factors influencing positive mental health. The measurement of positive mental health should be used to identify the vulnerable groups that could benefit from intervention and assess the baseline mental health status of those groups. Our findings of risk and protective factors contribute to the mental health strategy in public health actions.

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