

Investigation on Mental Health Status among High School Students at Grade 3 in Haidian District of Beijing

Mohan Li*, Yonggang Li, Baohua Zhang

Beijing No. 20 High School, Haidian District, Beijing, 100085, China

Abstract: Objective. To understand and analyze the mental health status of key Senior School Students at grade 3 in Haidian District of Beijing and Senior Three Students in General Schools, so as to provide basis for mental health education and psychological intervention. **Methods.** A total of 263 senior three students were randomly selected from a general school and two key school in Haidian District of Beijing. A questionnaire survey was conducted using the Mental Health Scale for Chinese Middle School Students (MSSMHS). **Results.** Of the 260 students surveyed, 54.2% had mental health problems, 36.5% had mild problems, 8.8% had moderate problems, and 0.5% had slightly and deeply serious problems. The first three factors about examined rates of factors of mental health were anxiety, learning and interpersonal relationship. The detection rates accounted for 23.5%, 23.1% and 18.8% respectively. There was no significant difference in the scores of each factor between key and ordinary middle school students ($P>0.05$). The scores of interpersonal, depression, anxiety and emotional factors of middle school girls were higher than those of boys, with statistical significance ($P<0.05$). **Conclusion.** There are some mental health problems among senior students at grade 3 in Haidian District of Beijing, and female students' are serious. Schools, families and societies should pay attention to this problem and strengthen mental health education with a focused goal.

Keywords: Mental health; Middle school students; Haidian District, Beijing, MSSMHS

Publication date: September, 2019

Publication online: 30 September 2019

***Corresponding author:** Mohan Li, bjhlgbzh@163.com

1 Introduction

Middle school students are in the stage of physiological and psychological maturity, and their malleable is great. Any unfavorable factors may affect their mental health. This situation is called "dangerous period" in psychology^[1]. College Entrance Examination is a Major Stress Event for Chinese Students. The mode of China's education is indoctrination teaching, students spend a lot of time studying in the classroom and have little time for social activities, especially after entering the third year of senior high school. This kind of education is undoubtedly a great challenge for immature and developing students. Unhealthy psychological conditions not only affect students' learning and the success of college entrance examination, but also have a negative impact on future life development. The domestic research results show that 10% to 30% of adolescents have psychological problems, and with the intensifying of competition and the increase of pressure, the proportion has increased in recent years^[2,3]. How to help college entrance examination candidates solve psychological problems and overcome negative effects and this is one of the important contents of mental health service, which has very important practical significance. In order to realize condition of mental health of senior three students in Beijing and provide basis for mental health education, from May to June 2019, the mental health status of senior three students in Beijing was analyzed. The results are reported as follows:

2 Subjects and methods

2.1 Subjects of investigation

In May 2019, Based on group random sampling, the

research investigated 263 senior high school students in two key middle schools and one general middle school in Haidian District of Beijing. 260 valid questionnaires were collected, with an effective rate of 99.2%, including 107 boys and 153 girls, 118 ordinary high schools and 142 key high schools.

2.2 Methods

Using anonymous methods of collective self-administered questionnaires. (1) self-made questionnaires, including gender, school (2) Mental Health Scale for Chinese Middle School Students compiled by Wang Jisheng (MSSMHS)^[4]. There are 60 items in the MSSMHS, including obsessive, paranoia, hostility, interpersonal tension and sensitivity, depression, anxiety, learning pressure, maladjustment, emotional instability and psychological imbalance. According to the total average score and the average score of each factor to evaluate their mental health status. All those surveyed need to evaluate themselves according to their recent psychological status, each assessment for about 20 minutes. MSSMHS was designed in five-point scale, and more than two points indicate that students have psychological problems. The higher the score, the greater the mental health problems of the students.

2.3 Outcome measures

Observed the detection rate of psychological problems of middle school students and compare the mental health status of middle school students in Beijing

with the psychological score of the national norm. Scoring criteria: 5-level scoring system (health, mild, moderate, heavy, serious) The total average score and the average score of its factors less than 2 indicated normal, 2 indicated mild psychological problems, 3 indicated moderate psychological problems, 4 indicated heavy psychological problems, and 5 indicated serious psychological problems.

2.4 Using SPSS 21.0 to establish the database and make statistical analysis

3 Results

3.1 The level of total average scores and factor scores of mental health of senior three students in Beijing

Of the 260 students surveyed, 54.2% had mental health problems, 36.5% had mild problems, 8.8% had moderate problems, and 0.5% had slightly and deeply serious problems. The first four factors about moderate to severe psychological problems of examined rates of factors were anxiety, learning, interpersonal relationship and mood-swings. The detection rates accounted for 23.5%, 23.1%, 18.8% and 18.8% respectively. The psychological problems of each factor ranked as follows: mood-swings, learning, anxiety, compulsion, interpersonal sensitivity, maladjustment, depression, paranoia, hostility and psychological imbalance. Enclose Table 1.

Table 1. The level of total average scores and factor scores of mental health of senior three students in Beijing. Distribution (n=260)

Factor	Survey score		The etection psychological problems(factors≥2)		Moderate and severe psychological problems(factors≥3)	
	$\bar{x}\pm s$	Sort	Detection rate (%)	Sort	Detection rate (%)	Sort
Mood-swings	2.24±0.81	1	43.08	1	18.85	3
Learning Pressure	2.28±0.89	2	37.69	3	23.08	2
Anxiety	2.24±0.96	3	32.69	4	23.46	1
Compulsion	2.07±0.68	4	41.92	2	12.69	7
Interpersonal Sensitivity	2.10±0.81	5	32.31	5	18.85	4
Maladjustment	2.02±0.77	6	31.15	6	15.00	6
Depression	2.03±0.88	7	29.12	7	16.86	5
Paranoia	1.83±0.72	8	26.92	8	8.85	9
Hostility	1.76±0.79	9	24.23	9	10.00	8
Psychological imbalance	1.77±0.65	10	24.23	10	6.15	10
Total Score	2.03±0.66					

3.2 Compare the mental health status of senior three students in Beijing with the national norm

In this group, the students' mood-swings, learning

pressure, anxiety, compulsion, interpersonal sensitivity, maladjustment, depression, paranoia, and psychological imbalance were significantly higher than the national norm. ($P < 0.05$) Enclose Table 2.

Table 2. Mental health score of middle school students and national norm in somewhere. Comparison ($\bar{x} \pm s$)

	Students from somewhere	Norn	T date	P date
	n=260	n=2446		
Mood-swings	2.24±0.81	1.98±0.65	5.26	0.000
Learning pressure	2.28±0.89	1.92±0.67	6.47	0.000
Anxious	2.24±0.96	1.8±10.75	7.26	0.000
Compulsion	2.07±0.68	1.89±0.61	4.23	0.000
Interpersonal sensitivity	2.10±0.81	1.85±0.73	4.95	0.000
Maladjustment	2.02±0.77	1.92±0.67	2.15	0.032
Depression	2.03±0.88	1.92±0.67	2.04	0.043
Paranoia	1.83±0.71	1.76±0.78	1.63	0.103
Hostility	1.76±0.79	1.72±0.75	0.88	0.377
Psychological imbalance	1.77±0.65	1.95±0.65	-4.54	0.000
Total Score	2.03± 0.60	1.88±0.57	3.77	0.000

3.3 MSSMHS score and psychological problem detection rate of different genders in learning

There were 107 boys and 153 girls in this survey. According to compare the detection rate of psychological problems shows whether mild or moderate factor, was higher in girls than in boys, except psychological imbalance factor, and

there were significant differences in the scores of mood fluctuation, maladjustment, depression and paranoia in mild psychological problems. ($P < 0.05$). It has significant differences in anxiety and depression factors between moderate and severe psychological problems ($P < 0.05$). Enclose Table 3.

Table 3. MSSMHS score and psychological problem detection rate of different genders in learning

	Survey score $\bar{x} \pm s$				Detection of mild psychological problems (factors ≥ 2)			Detection of moderate and severe psychological problems (factors ≥ 3)				
					Detection rate (%)			Detection rate (%)				
	Boys n=107	Girls n=153	T date	P date	Boys	Girls	χ^2 date	Boys	Girls	χ^2 date	Boys n=107	Girls n=153
Mood-swings	2.12±0.81	2.33±0.81	-2.06	0.040	14.62	28.46	4.24	0.039	6.92	11.92	0.49	0.485
Learning pressure	2.21±0.93	2.32±0.87	-0.99	0.323	13.46	24.23	1.922	0.166	9.23	13.85	0.04	0.836
Anxious	2.04±0.90	2.38±0.97	-2.93	0.004	13.46	19.23	0.00	0.996	5.38	18.08	10.91	0.001
Compulsion	2.05±0.73	2.08±0.64	-0.26	0.795	16.54	25.38	0.23	0.635	5.00	7.69	0.05	0.826
Interpersonal sensitivity	1.96±0.74	2.19±0.84	-2.43	0.018	11.92	20.38	0.93	0.336	5.77	13.08	2.77	0.096
Maladjustment	1.99±0.82	2.04±0.73	-0.49	0.621	10.00	21.15	3.98	0.046	6.54	8.46	0.11	0.737
Depression	1.80±0.74	2.20±0.93	-3.85	0.000	8.05	21.07	8.11	0.004	4.62	12.31	4.21	0.040
Paranoia	1.80±0.76	1.86±0.69	-0.59	0.554	8.08	18.85	4.92	0.027	4.23	4.62	0.46	0.496
Hostility	1.69±0.76	1.81±0.81	-1.18	0.237	9.23	15.00	0.32	0.571	3.08	6.92	1.29	0.257
Psychological imbalance	1.83±0.74	1.73±0.58	1.16	0.247	8.46	15.77	1.33	0.248	3.46	2.69	1.60	0.205
Total Score	1.95 0.67	2.09 0.65	-1.73	0.08								

3.4 MSSMHS score and psychological problem detection rate of different school

There are 142 students in key middle schools and 118 students in general middle schools. The comparison of the detection rate of psychological problems shows that the mild detection rate of mood-swings, learning, anxiety,

compulsion, interpersonal sensitivity, maladjustment, depression, paranoia and psychological imbalance factors in key middle schools is higher than that in general middle schools, while the moderate detection rate of compulsion and maladjustment factors in general middle schools is higher than that in key middle schools, and the difference was no statistically significant ($P>0.05$), Enclose Table 4.

Table 4. MSSMHS score and psychological problem detection rate of different school

	Survey score $\bar{x}\pm s$				Detection of mild psychological problems (factors ≥ 2)				Detection of moderate and severe psychological problems (factors ≥ 3)			
					Detection rate (%)				Detection rate (%)			
	Key n=142	General n=118	T date	P date	Key	General	χ^2 date	P date	Key	General	χ^2 date	P date
Mood-swings	2.23±0.79	2.27±0.83	-0.42	0.673	23.08%	20.00%	0.09	0.769	9.62%	9.23%	0.32	0.575
Learning pressure	2.26±0.85	2.30±0.94	-0.30	0.765	22.31%	15.38%	1.32	0.250	11.54%	11.54%	0.67	0.413
Anxious	2.17±0.91	2.33±1.01	-1.29	0.199	17.69%	15.00%	0.01	0.911	11.54%	11.92%	0.95	0.330
Compulsion	2.11±0.64	2.02±0.72	1.09	0.276	24.23%	17.69%	0.77	0.381	5.00%	7.69%	3.53	0.060
Interpersonal sensitivity	2.09±0.75	2.10±0.87	-0.13	0.898	18.85%	13.46%	0.69	0.405	10.00%	8.85%	0.06	0.808
Maladjustment	2.04±0.76	2.00±0.78	0.40	0.688	17.31%	13.85%	0.04	0.838	8.46%	6.54%	0.06	0.807
Depression	1.99±0.87	2.07±0.89	-0.67	0.506	16.48%	12.64%	0.17	0.683	8.46%	8.46%	0.46	0.500
Paranoia	1.83±0.68	1.84±0.76	-0.19	0.854	15.00%	11.92%	0.05	0.829	4.62%	4.23%	0.06	0.805
Hostility	1.74±0.78	1.79±0.81	-0.43	0.668	11.15%	13.08%	2.47	0.116	6.54%	3.46%	1.35	0.245
Psychological imbalance	1.81±0.63	1.72±0.67	1.03	0.305	13.85%	10.38%	0.21	0.643	3.46%	2.69%	0.02	0.892
Total Score	2.03 0.63	2.04 0.70	-0.19	0.85								

4 Discussion

The results of this group's survey show that nearly half of the senior students at grade 3 in a district of Beijing have psychological problems, mild grade of above problems accounted for 45.8%, and the overall mental health situation is not optimistic. Heavy and serious psychological problem accounted for 0.5%. From the distribution of each factor, the detection rate of mood-swings, learning pressure, anxiety, compulsion, interpersonal sensitivity and maladjustment factors was higher, which was basically consistent with the results of relevant research. The possible reason is whether they can get good results in the examination is directly related to their own future development for Chinese students. In addition, special education methods and living habits make puberty students easy to create

imbalance in physical and mental development, which leads to less affordability, relatively fragile emotions and will, and further cause the emergence of psychological problems.

In the psychological problems of middle school students in Beijing, each factor, total score and total average score are significantly higher than the national norm score that obtained by Wang Jisheng's survey in 1997 ($P<0.05$), except paranoia, hostility, which indicates that with the acceleration of social development, the psychological problems of middle school students are aggravating.

The survey found that compare the detection rate of psychological problems shows whether mild or moderate factor, was higher in girls than in boys, and there were significant differences in the scores of mood fluctuation, maladjustment, depression and paranoia

in mild psychological problems. It has significant differences in anxiety and depression factors between moderate and severe psychological problems. This may be related to the fact that males are stronger than females in resisting disturbance of external environment changes or males are generally more cheerful and active than females in personality. Females are relatively unstable, indecisive and sentimental, nevertheless, males are more aggressive, irritable and emotional fluctuations.

The survey found that there was no significant difference in the average scores of each factor between key middle schools and general schools. It hinted that there is no obvious gap about school and family environment, economic conditions, qualified teachers, management level, teaching equipment and so on between schools. It is obviously insufficient that parents' occupation, education level, and upbringing mode are not included.

Through this survey, we hope that schools and society will pay more attention to the mental health of middle school students and the mental health education should be actively carried out so that every student can grow up healthily and happily.

References

- [1] Department of Health, Health Service Survey in China-Main Results of the Fourth National Health Service Survey[EB]. <http://www.moh.gov.cn/publicfiles/business/htmlfile/mohbgt/83582/2009/39201.htm>, 2009-02-27.
- [2] Hu SL. Senior high school student, Study on Mental Health Level and Its Influencing Factors[J]. *Acta Psychologica Sinica*. 1994, 26(2):153-60.
- [3] Zhang M, Wang ZY. Investigation and Analysis of Middle School Students' Mental Health[J]. *Chinese Mental Health Journal*. 2001, 15(4):226-7.
- [4] Wang JS, Li Y. Mental Health Inventory of Middle-school students, MMHI-60[J]. *Science of Social Psychology*. 1997, 46(4):15-20.