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ORIGINAL RESEARCH

Investigation on the Attitude of Middle School Students with Depression in the City Toward Professional Psychological Help-Seeking

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Background: Many middle school students are depressed due to pressure from family, study, life, and communication. With the increasing depression of middle school students, professional psychological counseling institutions have also become more numerous. Therefore, students need to be guided to correctly recognize difficulties and seek professional psychological assistance.

Aim: We aimed to investigate the depression status of middle school students in the city and analyze their attitude towards professional psychological help-seeking.

Methods: A total of 2485 students from two classes of each grade from six middle schools in the city were randomly selected as the research objects. They were subjected to answer the general questionnaire and professional psychological help-seeking attitude questionnaire to analyze their depression status, psychological help-seeking status, and attitude towards professional psychological help-seeking.

Results: 2485 questionnaires were distributed, and 2205 valid questionnaires were returned. A total of 791 (35.9%) of students had depressive symptoms. The detection rate and depression scores in girls were significantly higher than in boys, and the detection rate in junior high school students in the city was notably higher than in high school students and students from rural areas ($P<0.05$). Only 31 (3.9%) middle school students with depressive symptoms have sought professional psychological help. The scores of self-cognition, stigma tolerance, interpersonal openness, and trust scores of middle school students with depressive symptoms in help-seeking attitude were significantly lower than those of normal students, while self-stigma scores were significantly higher in those with depressive symptoms ($P<0.001$).

Conclusion: Middle school students in the city with depression have a poor attitude towards professional psychological help-seeking. Educators should positively and correctly guide depressed middle school students to seek professional psychological assistance when they need help.

Keywords: city, depression status, middle school students, professional psychological help-seeking, attitude

Introduction

Middle school students often encounter setbacks or difficulties in their studies and life. If they can actively and correctly understand and ask for help, they can solve problems more effectively and quickly through external forces, and make their mentality more fulfilled and peaceful. Therefore, students need to be guided to correctly recognize the difficulties and seek professional psychological assistance. It will guide students to maintain their mental health, and encourage them to better adapt to society.[1,2] However, many middle school students are depressed due to the pressure from family, study, life, communication, etc.[3] Additionally, it is difficult for them to know how to seek professional assistance.

Currently, psychological help-seeking is gradually popularized in China, and professional psychological counseling has obtained more and more attention. In December, China's National Health Commission and other departments jointly

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issued the "Healthy China Action-Mental Health Action Program for Children and Adolescents (2019–2022)". It is pointed out that the mental health work of children and adolescents is an important part of the construction of a healthy China, and it is necessary to further strengthen the mental health work of children and adolescents, which is an important public health issue related to the future of the country and the nation.[4] However, the research and practice of school mental health education has made great progress with the development of the economy. However, the utilization rate of mental health services by a large number of middle school students is very low. That is to say, although psychological problems will bring certain troubles and negative effects to individuals' normal life and study, however, a large number of students who encounter psychological problems still do not seek professional psychological help. Few domestic studies in China have systematically investigated and analyzed the professional psychological help-seeking status of middle school students. In this study, we conducted a questionnaire survey to investigate the attitudes and implementation of professional psychological help-seeking among middle school students in the city.

Subjects and Methods

Subjects

Before conducting the survey, firstly, we contacted the Education Commission of Nanchong City, clarified the purpose of our investigation, and obtained their consent. Then we obtained a list of all junior high schools and senior high schools in the city from the Education Commission, including 21 junior high schools and 12 senior high schools. Based on the graduation rate of each school in the past three years, the teaching of all schools was classified into three levels: strong (graduation rate ≥70%, including 4 senior high schools, 6 junior high schools), Middle (50% ≤ graduation rate<70%, include 5 senior high schools, 10 junior high schools), weak (graduation rate <50%, include 3 senior high schools, 5 junior high schools). Then we randomly selected one junior high school and one senior high school from each level. After that, two classes of students in each grade of all selected schools were randomly selected as the final research subjects in cluster-based units. A total of 18 classes in junior high school and 18 classes in senior high school were selected. Then we contact the leaders of the selected schools to obtain consent for the investigation.

To ensure the scientific nature and operability of the investigation and study, a small-scale preliminary experiment was conducted before the formal investigation. We extract a certain number of overall samples from the formal survey and test the questionnaire in advance. Through the investigation, possible problems in the implementation of the questionnaire can be found early, and to adjust and modifications can be made to avoid mistakes in the formal investigation. The sample size of this pre-experiment was 60 cases. The survey time is one self-study class, which is 40 minutes. The recovery rate of the questionnaire was 100%, the effective rate was 96.7%. The survey results showed that the majority of students were able to correctly understand the content of the questionnaire on their own. Some items which difficult to understand can also be understood after being explained by investigators. Among them, two students were unable to complete the questionnaire completely due to slow problem-solving speed. In summary, the preliminary survey results showed that the questionnaire is actionable.

We first explained the purpose of this study, the design plan, and the questionnaire to students and their parents. Students or their parents were given the option to participate in this study or to withdraw. The formal investigation was conducted between March 2021 and May 2021, after receiving informed consent from the students and their parents. In our study, a total of 2485 questionnaires were distributed and 2205 valid questionnaires were recovered. The effective rate was 88.7%. The research proposal was approved by the ethics committee of The Affiliated Hospital of North Sichuan Medical College.

Self-Compiled General Condition Questionnaire

Self-compiled General Condition Questionnaire included their sociodemographic characteristics, about the school, grade, class, gender, age (years old), only-child status (yes/no), place of residence (urban/rural), the experience of being a left-behind child in childhood or at present (yes/no), personality traits (extroversion; introversion; neutral), father's educational background (primary school below/junior high school/senior high school or technical secondary school/junior college or above), mother's educational background, Family structure (nuclear family/single parent family/reorganized

family), familial atmosphere (harmony and tranquility/quarrels and conflicts/tension and oppression), parents' educational methods (democratic consultation/mandatory command/be unconcerned), family economic status (good/average/poor), inferiority (often/sometimes/not); relationship with your parents (good/neutral/poor), relationship with classmates (good/neutral/poor), completely trusted friends (yes/no), academic record (poor/average/good), attitude towards learning (detest/neutral/enjoy), psychological health education course (yes/no), and whether you have sought professional psychological assistance in the past (yes/no). Self-compiled questionnaires were selected by students based on their actual conditions, and no scoring was involved.

Attitude Toward Seeking Professional Psychological Help Scale (ATSPPHS)

The Attitude Toward Seeking Professional Psychological Help Scale (ATSPPHS) was compiled by Fischer and Turner. We use the revised Chinese version in our study.[5] It consists of 29 items, with four dimensions, including self-awareness of the need for psychological help, tolerance to stigma, interpersonal openness, and trust in mental health practitioners. The internal consistency coefficients of each dimension were 0.67, 0.70, 0.62, and 0.74, respectively. The internal consistency coefficient of this questionnaire was 0.81. This questionnaire is in the form of questions and answers without any tendentious language, aiming at fair and objective scoring. A 5-point scale is adopted, with 1 being "strongly disagree" and 5 beings "strongly agree". The higher the total score, the more positive the attitude towards seeking professional psychological help. In the early reliability and validity evaluation of the questionnaire, there was unified filling by researchers for quality evaluation, and the filling time averaged 20 min, among which the interpretation of individual concepts included: self-stigma refers to the way of communication with others, also called self-ridicule; Self-cognition is self-knowledge, including self-observation and self-evaluation, to ensure the consistency of questionnaire input. The content of the questionnaire is displayed in Supplementary Table 1.

Self-Stigma of Seeking Help Scale (SSOSH)

Self-Stigma of Seeking Help scale[6] was compiled by Vogel. Used to measure the self-stigma of seeking professional psychological help, which refers to the decrease in self-esteem, self-worth, and other aspects caused by misunderstanding and fear of professional psychological assistance. It consists of 10 items, rated from 1 (strongly disagree) to 5 (strongly agree). The total score has a range of 10 to 50 points which is based on the sum of each item score. The higher the score indicates the more severe the self-stigma. The scale has a good internal consistency coefficient (Cronbach's alpha, 0.86–0.89) and good retest reproducibility (ICC= 0.72),[7] with an internal consistency of a = 0.75 in middle school and high school students from Beijing, China. The content of the questionnaire is displayed in Supplementary Table 2.

Zung Self-Rating Depression Scale (SDS)

Used for measuring depressive symptoms. The scale includes 20 entries, using a 4-grade score: 1. a little of the time, 2. some of the time, 3. good part of the time, 4. most of the time. The subjects marked each item based on their feelings in the past few days. The original total score of SDS is between 20 and 80, but the results are usually represented by the SDS index, which is obtained by converting the original score to 100 points (standard total score = original score × 1.25; the result is an integer). The total score≥53 indicated a depressed state (mild: $53 \leq SDS \leq 62$, moderate: $63 \leq SDS \leq 72$; severe: $SDS \geq 72$).[8] The SDS has considerable internal consistency, with a split-half reliability of 0.73. An α coefficient of 0.79 was reported by Knight.[9]

Investigation Methods

Before the investigation is conducted, first provide training for all investigators, including the purpose of the study, the subjects, the duration, the tools used, the entire investigation process, and precautions of the investigation. At the same time, during the training period, the instructions and survey methods before the survey will be unified for all investigators. Training the content of the questionnaire. In this stage, all investigators were required to master the guidance language of each survey scale, understand the specific content and scoring standards of each item in the table, and explain the content of individual items that are difficult to understand or easily confused to students in simple

language. Consistency testing of the scale evaluation results will be conducted after the training, the consistency results greater than 90% were considered qualified. The training time was 2 days in total.

During the investigation, the survey was conducted with the class as a unit and the time of self-study. Before the investigation, investigators illustrate the purpose of this survey is to help students solve psychological problems, fill in the method questionnaire for the Q&A form (according to students' subjective evaluation to select the most appropriate answer), and matters needing attention (after completion of all the problems must be handed in), conducted by professional staff to control the quality of the questionnaire. They also informed the students that this survey was voluntary. The survey would be conducted when the students agreed to the survey and signed the informed consent form. All information collected in the questionnaire will be kept confidential. All questionnaires will be collected uniformly on the spot by investigators after completion.

Statistical Analysis

All analyses were conducted by SPSS (version 20.0) software. Descriptive statistics were employed to delineate and compare general characteristics. The differences in detection rates were evaluated using chi-square tests; *t*-tests and analysis of variance were used to assess the differences in depression scores, professional psychological help-seeking attitude, and self-stigma scores among categorical variables. We used Pearson Correlation analysis to examine the correlation between adolescent depression, self-stigma, and professional psychological help-seeking attitude. The significance level was set to $P<0.05$.

Results

The General Information of Those Middle School Students

Among the 2205 valid questionnaires, there were 996 boys and 1209 girls. There were 1133 students from cities and 1072 from rural areas. There were 1129 junior high school students, with an average age of (13.77±1.12) years old, including 392 first-grade students, 350 second-grade students, and 387 third-grade students. Furthermore, there were 1076 high school students, with an average age of (16.77±1.15) years old, including 392 first-grade students, 351 second-grade students, and 333 third-grade students.

Detection of Depressive Symptoms Among Middle School Students

A total of 791 (35.9%) adolescents had depressive symptoms. The detection rate of girls was significantly higher than that of boys (39.0% vs 32.0%), the detection rate of junior high school students was notably higher than that of high school students (38.4% vs 33.3%), and the detection rate of students from rural areas was also substantially higher than that of students from cities (38.7% vs 33.2%) (all $P<0.05$). In terms of different degrees of severity, the detection rate of

Table 1 Detection of Depressive Symptoms

Groups	Total Number of SDS	Mild	Moderate	Severe
Total population	791(35.9)	573(30.0)	186(8.4)	32(1.5)
Boys (n=996) %	319(32.0)	246(24.7)	61(6.1)	12(1.2)
Girls(n=1209) %	472(39.0)	327(27.0)	125(10.3)	20(1.7)
χ^2	11.674	1.566	12.559	0.771
P	0.001	0.211	0.000	0.380
Junior high school students (n=1129)	433(38.4)	317(28.1)	97(8.6)	19(1.7)
High school students (n=1076)	358(33.3)	256(23.8)	89(8.3)	13(1.2)
χ^2	6.183	5.262	0.073	0.868
P	0.013	0.022	0.787	0.351
City (n=1133)	376(33.2)	259(22.9)	101(8.9)	16(1.4)
Rural area (n=1072)	415(38.7)	314(29.3)	85(7.9)	16(1.5)
χ^2	7.313	11.846	0.692	0.025
P	0.007	0.001	0.405	0.875

only moderate depression in girls was markedly higher than in boys, the detection rate of only mild depression in junior high school students was significantly higher than in high school students, and the detection rate of mild depression in students from rural areas was significantly higher than students from cities (all $P<0.05$, Table 1).

The Score of the Depression Scale

The average score on the depression scale was (50.26±10.01) points. The score of girls was significantly higher than boys, and the score of students from rural areas was significantly higher than students from cities (all $P<0.001$). However, there was no significant difference in the score on the depression scale between junior high school students and high school students ($P>0.05$, Table 2)

The Status of Psychological Help-Seeking Among Middle School Students

Only 31 (3.9%) middle school students with depressive symptoms had sought professional psychological assistance. There were 16 (5.0%) boys and 15 (3.2%) girls, 18 (4.2%) junior high school students and 13 (3.6%) high school students, or 18 (4.8%) students from cities and 13 (3.1%) students from rural areas.

Professional Psychological Help-Seeking Attitude and Self-Stigma Score in Depressed Students

The scores of middle school students with depressive symptoms in help-seeking attitude, self-cognition, stigma tolerance, interpersonal openness, and trust scores were significantly lower than those in non-depressed students, while self-stigma scores were significantly higher in depressed students than non-depressed students (all $P<0.001$, Table 3).

Analysis of socio-demographic characteristics revealed that among adolescents with depressive symptoms, differences in self-perception scores were statistically significant concerning school, gender, relationship with parents, presence of mental health education classes, and whether they had previously sought professional psychological

Table 2 Youth SDS Scores

Groups	SDS Score
Boys (n=996)	49.28±9.92
Girls (n=1209)	51.06±10.12
t	−4.154
P	0.000
Junior high school students (n=1129)	50.31±10.46
High school students (n=1076)	50.20±9.64
t	0.239
P	0.811
City (n=1133)	49.43±10.48
Rural (n=1072)	51.13±9.54
t	−3.994
P	0.000

Table 3 Differences in Professional Psychological Help-Seeking Attitudes Among Young People with or Without Depression

Items	Self-Awareness	Tolerance of Stigma	Interpersonal Openness	Trust-Worthiness	Total Score for Help-Seeking Attitude	SSOSH Total Score
Have depression	24.18±3.75	16.63±2.45	22.44±3.84	28.16±4.72	91.41±11.16	28.24±4.11
No depression	25.25±3.74	17.63±2.44	23.97±3.49	30.23±4.66	97.07±10.81	27.58±3.61
t	−6.451	−9.258	−9.470	−9.924	−11.657	3.921
P	0.000	0.000	0.000	0.000	0.000	0.000

assistance (all $P<0.05$). Differences in stigma tolerance scores were statistically significant in terms of gender, school level, and whether or not the child was left behind (all $P<0.05$). Differences in interpersonal openness scores were statistically significant in terms of gender, school level, presence of fully trusted friends, and low self-esteem (all $P<0.05$). Differences in trustworthiness scores were statistically significant in terms of school, gender, relationship with parents, presence of mental health education classes, attitudes toward learning, feelings of low self-esteem, and feelings of affection with parents (all $P<0.05$). Differences in total help-seeking attitude scores were statistically significant in terms of school, gender, relationship with parents, presence of mental health education classes, and feelings of low self-esteem (all $P<0.05$). Differences in total SSOSH scores were statistically significant in terms of relationship with parents, whether or not they had previously sought professional psychological assistance, their academic performance, and feelings of low self-esteem (all $P<0.05$, Table 4).

The Correlation Between Professional Psychological Help-Seeking Attitude and Other Factors

The self-stigma score was significantly negatively correlated with self-awareness, stigma tolerance, interpersonal openness, and total scores of help-seeking attitudes (all $P<0.01$), and the total SDS score was significantly negatively correlated with self-awareness, stigma tolerance, and interpersonal openness (all $P<0.01$). The total scores of trustworthiness were significantly negatively correlated with help-seeking attitude ($P<0.01$, Table 5).

Discussion

Mental health awareness has begun to emerge in foreign countries in the last century. Since then, mental health work has gradually achieved greater development in various fields and countries, and it has played an important role in improving the level of public mental health.[10–12] In the 1980s, relevant experience and theories of psychological counseling were substituted into school education in China. Until now, domestic mental health education has achieved long-term development. Researchers have found through practice and investigation that the utilization rate of mental health services by the public is generally low, which is more obvious among middle school students.[13] Middle school students are in the stage of rapid changes in psychology and physiology. They are encountering psychological conflicts and psychological problems. However, most of them do not turn to seeking professional psychological services. Therefore, educators need to encourage students to seek help from appropriate sources as soon as possible. Hyde et al have found that males and females have different anxiety emotions, and emotions and cognition have significant impacts on the production of depressive symptoms.[14]

In this study, we aimed to understand the status of depressive symptoms among middle school students in the city and the attitudes of students to seek professional psychological help. The random selection method was used to select 2400 middle school students to conduct a questionnaire survey. We found that among these middle school students, 791 have depressive symptoms, accounting for 35.9%. The depressive symptoms of middle school students in rural areas were still very common and required more attention. Further comparison showed that the detection rate of depression symptoms and depression scores in girls was significantly higher than in boys, which may be related to hormone levels. Angold A also has found that fluctuations in hormone levels will affect the mood of adolescents, which is an important factor in making girls more likely to be depressed.[15] Additionally, animal experiments have shown that estrogen may cause an increased stress response in the prefrontal cortex of the brain, and the pressure received by estrogen can cause abnormalities in the functions of the prefrontal cortex, which may be the reason why girls are more prone to depressive symptoms.[16,17]

In this study, we also found that the detection rate of depression in junior high school students was significantly higher than in high school students, and the detection rate and depression scores of students from rural areas were significantly higher than students from cities. The mental health status of rural children is not optimistic, and the reasons are as follows: (1) junior high school students are in a period of hormone fluctuation;[18] (2) Rural students' knowledge is relatively narrow, their parents' education level is low, their family happiness index is low, and they may not pay attention to the changes of students' emotions, which makes rural students more likely to bury many complex emotions,

Table 4 Differences in Psychological Help Seeking and Self-Stigma Among Depressed Adolescents

Items		Self-Perception	Stigma Tolerance	Interpersonal Openness	Trustworthiness	Total Help-Seeking Attitude	SSOSH Scores
School	Strong	24.29±3.63	16.74±2.34	22.57±3.66	28.07±4.68	91.66±10.85	28.07±4.58
	Secondary	24.65±3.92	16.54±2.39	22.62±3.79	28.91±4.77	92.73±11.39	28.35±3.44
	Weak	23.58±3.64	16.59±2.63	22.14±4.08	27.52±4.62	89.82±11.11	28.31±4.20
	F	5.537	0.446	1.253	5.792	4.529	0.367
	P	0.004	0.640	0.286	0.003	0.011	0.693
Gender	Male	23.54±3.76	16.28±2.54	21.68±3.90	27.68±4.98	89.18±11.25	28.45±4.87
	Female	24.60±3.69	16.86±2.37	22.96±3.71	28.49±4.51	92.92±10.85	28.10±3.51
	t	−3.935	−3.268	−4.669	−2.388	−4.680	1.179
	P	0.000	0.001	0.000	0.017	0.000	0.239
School level	Junior high school	24.12±3.99	16.33±2.59	22.05±4.01	28.30±5.00	90.80±11.94	28.40±4.56
	High school	24.25±3.45	16.98±2.23	22.93±3.58	28.00±4.36	92.16±10.11	28.05±3.50
	t	−0.505	−3.715	−3.226	0.884	−1.712	1.200
	P	0.614	0.000	0.001	0.377	0.087	0.230
Home Location	City	23.99±3.94	16.63±2.52	22.43±4.12	28.16±4.95	91.21±11.75	28.25±4.50
	Countryside	24.35±3.57	16.62±2.40	22.46±3.58	28.16±3.57	91.59±10.61	28.23±3.74
	t	−1.333	0.035	−0.127	0.002	−0.483	0.093
	P	0.183	0.972	0.899	0.999	0.629	0.926
The only child	Yes	23.84±3.65	16.74±2.62	22.27±3.72	27.88±4.58	90.72±10.84	28.43±4.23
	No	24.32±3.79	16.58±2.38	22.52±3.89	28.29±4.78	91.71±11.29	28.16±4.06
	t	−1.670	0.834	−0.868	−1.107	−1.145	0.842
	P	0.095	0.405	0.385	0.269	0.253	0.400
Personality traits	Extroverted	24.46±3.63	16.69±2.51	22.88±3.80	28.36±4.82	92.40±10.80	28.09±4.27
	Introverted	23.96±4.27	16.52±2.34	21.89±4.47	28.19±5.34	90.57±13.05	28.40±4.45
	Centered	24.09±3.67	16.62±2.46	22.38±3.67	28.06±4.51	91.15±10.78	28.27±3.94
	F	0.957	0.188	2.746	0.318	1.336	0.251
	P	0.385	0.828	0.065	0.728	0.264	0.778
Left-behind children	Yes	24.41±3.63	16.15±2.33	22.68±3.59	28.01±4.64	91.25±10.23	28.17±4.11
	No	24.11±3.79	16.76±2.47	22.38±3.91	28.20±4.75	91.46±11.41	28.26±4.12
	t	0.920	−2.890	0.906	−0.472	−0.211	−0.256
	P	0.358	0.004	0.365	0.637	0.833	0.798

(*Continued*)

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Table 4 (Continued).

Items		Self-Perception	Stigma Tolerance	Interpersonal Openness	Trustworthiness	Total Help-Seeking Attitude	SSOSH Scores
Father's educational background	Primary or junior high school	24.09±3.69	16.53±2.52	22.44±3.84	28.06±4.63	91.12±11.13	28.38±3.97
	High school or technical secondary school	24.50±3.60	16.77±2.43	22.37±3.76	26.52±4.62	92.16±10.63	28.05±3.72
	College or above	23.81±4.65	16.95±1.92	22.72±4.13	27.77±5.73	91.24±13.06	27.75±6.08
	F	1.247	1.370	0.202	0.944	0.658	0.948
	P	0.288	0.255	0.818	0.389	0.518	0.388
Mother's educational background	Primary or junior high school	24.06±3.68	16.59±2.44	22.40±3.81	28.07±4.71	91.13±11.02	28.29±4.00
	High school or technical secondary school	24.57±3.74	16.71±2.56	22.76±3.85	28.75±4.76	92.79±11.21	28.38±3.71
	College or above	24.39±4.64	16.79±2.40	22.00±4.29	27.49±4.72	90.67±12.72	27.10±6.33
	F	1.160	0.229	0.814	1.727	1.422	1.765
	P	0.314	0.795	0.444	0.179	0.242	0.172
Family economic status	Good	25.82±4.03	16.65±2.54	22.34±5.50	28.86±4.50	93.68±13.78	28.38±7.58
	Common	24.13±3.81	16.60±2.41	22.38±3.79	28.18±4.77	91.30±11.23	28.14±3.77
	Poor	24.03±3.32	16.73±2.67	22.78±3.66	27.91±4.54	91.45±10.16	28.68±4.61
	F	2.952	0.151	0.584	0.512	0.633	0.931
	P	0.053	0.860	0.558	0.599	0.531	0.395
Relationship with parents	Good	24.38±3.40	16.75±2.26	22.70±3.69	28.55±4.29	92.37±9.86	28.20±4.22
	Common	24.16±3.84	16.52±2.59	22.14±3.81	27.96±4.84	90.78±11.69	27.95±3.58
	Poor	23.08±5.03	16.32±2.96	22.09±4.70	26.69±6.18	88.19±15.02	29.56±5.02
	F	3.862	1.344	2.215	5.378	5.256	4.650
	P	0.021	0.261	0.110	0.005	0.005	0.010
Relationship with classmates	Poor	24.08±4.79	16.04±2.72	21.04±6.19	26.80±6.44	87.95±16.51	29.35±7.05
	Common	24.09±3.74	16.61±2.49	22.44±3.79	28.05±4.76	91.19±11.20	28.31±3.81
	Good	24.33±3.69	16.70±2.38	22.57±3.66	28.47±4.47	92.07±10.49	28.03±4.25
	F	0.393	0.853	1.833	1.780	1.797	1.369
	P	0.675	0.427	0.161	0.169	0.166	0.255
Family structure	Nuclear family	24.21±3.72	16.61±2.43	22.57±3.77	28.29±4.58	91.68±10.87	28.09±4.03
	Single parent family	23.57±3.92	16.34±2.53	21.65±3.90	27.43±5.54	88.98±11.95	29.04±4.37
	Reorganize the family	24.49±3.86	17.06±2.58	21.98±4.37	27.67±5.20	91.21±13.03	28.94±4.52
	F	1.128	1.477	2.289	1.403	1.817	2.678
	P	0.324	0.229	0.102	0.247	0.163	0.069

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Family atmosphere	Harmony and tranquility	24.17±3.64	16.72±2.39	22.52±3.72	28.41±4.45	91.82±10.48	28.14±4.00
	Disputes and conflicts	24.16±4.32	16.45±2.55	22.26±4.34	27.57±5.41	90.45±13.31	28.52±4.17
	Nervous suppression	24.22±3.53	16.43±2.62	22.31±3.73	27.71±4.96	90.66±11.26	28.35±4.60
	F	0.009	1.078	0.357	2.401	1.158	0.515
	P	0.991	0.341	0.700	0.091	0.315	0.598
Emotions between parents	Good	24.23±3.82	16.75±2.38	22.75±3.68	28.53±4.48	92.26±10.71	27.87±4.45
	Common	24.31±3.58	16.49±2.51	22.24±3.83	28.28±4.46	91.33±10.65	28.38±3.83
	Poor	23.60±4.06	16.70±2.49	22.24±4.27	26.75±5.84	89.29±13.52	28.83±3.91
	F	1.639	0.984	1.682	9.239	3.016	2.735
	P	0.195	0.374	0.187	0.002	0.050	0.065
Feels of low self-esteem	Usually	23.90±4.42	16.55±2.57	20.05±4.36	27.04±5.46	89.54±12.80	28.25±5.14
	Sometimes	24.29±3.51	16.67±2.45	22.66±3.60	28.49±4.40	92.10±10.46	28.51±3.71
	No	23.87±4.18	16.50±2.36	21.71±4.37	27.75±2.29	89.82±12.46	26.64±4.53
	F	0.938	0.261	3.326	5.352	3.867	8.632
	P	0.392	0.770	0.036	0.005	0.021	0.000
Academic performance	Poor	24.02±3.77	16.59±2.44	22.18±3.77	27.88±4.64	90.68±11.21	28.23±3.91
	Common	24.22±3.65	16.64±2.51	22.61±3.73	28.32±4.67	91.79±10.82	28.42±4.09
	Good	24.36±4.27	16.64±2.22	22.24±4.60	28.08±5.25	91.32±12.88	27.21±4.65
	F	0.321	0.029	1.130	0.683	0.780	3.090
	P	0.726	0.971	0.323	0.505	0.459	0.046
Attitude towards learning	Disgust	24.12±3.76	16.54±2.47	22.29±3.80	27.61±4.60	90.56±10.88	28.43±4.24
	Common	24.27±5.54	16.82±2.46	22.71±3.76	28.65±4.71	92.45±10.96	28.04±3.94
	Like	24.06±4.66	16.14±2.19	22.06±4.33	28.96±5.11	91.21±13.25	28.14±4.20
	F	0.176	2.638	1.455	5.499	2.592	0.822
	P	0.839	0.072	0.234	0.004	0.075	0.440
Parental education methods	Democratic consultation	24.25±3.52	16.74±2.38	22.64±3.66	28.36±4.57	91.99±10.33	28.11±3.61
	Mandatory command	24.19±4.13	16.42±2.60	22.25±4.15	28.00±4.86	90.86±12.50	28.47±4.92
	Indifference	23.40±4.12	16.49±2.42	21.47±4.03	27.04±5.39	88.39±12.05	28.49±4.64
	F	1.250	1.420	2.692	2.086	2.913	0.7301
	P	0.287	0.242	0.068	0.125	0.055	0.482
Psychological Health Education Course	Yes	24.65±3.81	16.60±2.47	22.69±3.67	29.31±4.62	93.26±10.76	28.16±4.25
	No	23.96±3.71	16.64±2.45	22.33±3.92	27.63±4.68	90.56±11.25	28.28±4.05
	t	2.440	−0.213	1.222	4.724	3.182	−0.369
	P	0.015	0.831	0.222	0.000	0.002	0.712

(*Continued*)

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Table 4 (Continued).

Items		Self-Perception	Stigma Tolerance	Interpersonal Openness	Trustworthiness	Total Help-Seeking Attitude	SSOSH Scores
A completely trusted friend	Yes	24.28±3.58	16.69±2.27	22.79±3.61	28.19±4.49	91.95±10.29	28.26±3.98
	No	24.01±4.02	16.52±2.73	21.87±4.14	28.12±5.09	90.52±12.43	28.20±4.33
	t	0.978	0.982	3.265	0.181	1.741	0.212
	P	0.328	0.326	0.001	0.856	0.082	0.832
Seeking professional psychological assistance	Yes	25.90±3.94	16.26±3.00	22.93±4.67	29.32±3.92	94.41±11.75	26.49±3.81
	No	24.10±3.73	16.64±2.43	22.43±3.81	28.12±4.75	91.29±11.13	28.31±4.11
	t	2.620	−0.856	0.723	1.395	1.530	−2.420
	P	0.009	0.392	0.470	0.163	0.126	0.016

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Table 5 The Correlation Between Adolescent Depression, Self-Stigma and Professional Psychological Help-Seeking Attitude

Items	Self-Awareness	Stigma Tolerance	Interpersonal Openness	Trust-Worthiness	Total Score for Help-Seeking Attitude	SDS Score
SSOSH total score	−0.122**	−0.188**	−0.194**	−0.008	−0.152**	0.062
Self-awareness		0.262**	0.468**	0.569**	0.796**	−0.096**
Stigma tolerance			0.417**	0.287**	0.573**	−0.107**
Interpersonal openness				0.396**	0.761**	−0.162**
Trustworthiness					0.814**	−0.176**
Total score for help-seeking attitude						−0.186**

Note: **Correlation is significant at the 0.01 level (2-tailed).

thus leading to depression;[19] (3) Rural economic development is low, and the ratio of mental health teachers is insufficient.[20] Our results show that middle school students, we need to understand their emotional state and pay more attention to them to detect their depression in time and solve it in time, especially for rural students and junior high school students.

A further investigation found that among middle school students with depressive symptoms, only 3.9% had sought professional psychological assistance. Professional psychological assistance is an important way to help middle school students change their incorrect cognition, adjust their way of thinking, and improve their mental health.[21,22] The attitude towards professional psychological help-seeking refers to the internal reaction tendency of people to seek professional psychological assistance when they encounter psychological problems.[23] To understand the reasons for the low frequency of professional psychological help-seeking among depressed middle school students, we analyzed their attitude towards professional psychological help-seeking. We found that middle school students with depressive symptoms had significantly lower scores in help-seeking attitude, self-awareness, stigma tolerance, interpersonal openness, and trust than those without depression, while self-stigma scores were significantly higher than those without depression. Depressed middle school students have obvious deviations in self-cognition, and they are inferior to non-depressed students in terms of trust in the outside world and interpersonal relationships. Besides, among depressed middle school students, the total scores in self-cognition, stigma tolerance, interpersonal openness, trustworthiness, and help-seeking attitude among girls were significantly higher than boys, which showed that girls' self-cognition was slightly better than boys, girls were better than boys in the attitude towards professional psychological assistance. From the perspective of physiology and psychology, adolescent girls have stronger image-thinking ability, and when they encounter negative emotions, the emotional center of the brain spreads from the internal "amygdala" to the language center of the whole cerebral cortex, and their ability to talk and express language is stronger than adolescent boys.[24]

High school students had significantly higher scores in stigma tolerance and interpersonal openness than junior high school students. This may be because high school students are older and more mature than junior high school students. Further analysis showed that the self-stigma score was negatively correlated with self-awareness, stigma tolerance, interpersonal openness, and total scores for help-seeking attitudes, and the SDS total score was negatively correlated with self-awareness, stigma tolerance, interpersonal, the total scores of openness, trustworthiness, and help-seeking attitude were negatively correlated with above. The attitude of depressed middle school students to professional psychological help is affected by students' self-awareness, tolerance, trust in others, and interpersonal relationships. This reminds educators that they need to pay close attention to the psychological changes of middle school students in the process of growing up. Once they find depressive emotions, they must analyze the causes and make a targeted analysis. In daily mental health education, all middle school students need to be actively guided to form a positive attitude towards professional psychological help, so that they can actively seek professional help when needed.

This study also has certain limitations. Firstly, there are small sample size included and limited research time. There is no further detailed analysis of the age of middle school students. The sample size can be expanded to include more

students in the study, and the study area will be expanded to avoid the influence of the bias of the research sample. Third, the situation of middle school students can be further refined for in-depth understanding.

Conclusion

In conclusion, the proportion of depressed middle school students to seek professional psychological assistance is relatively low. The attitude of depressed middle school students towards professional psychological help is affected by many factors. Therefore, educators need to actively and correctly guide depressed middle school students to form a correct understanding of professional psychological help-seeking, so that they can actively seek professional psychological support when they need it.

Data Sharing Statement

The data used to support the findings of this study are available from the corresponding author upon request.

Ethical Approval

All procedures performed in studies involving human participants followed the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. This study is approved by the Ethics Committee of the Affiliated Hospital of North Sichuan Medical College. Written informed consent was obtained.

Consent for Publication

Informed consent was obtained from all individual participants included in the study.

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Disclosure

The authors declared that they have no conflicts of interest in this work.

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