The Current Situation and Enhancement of College Students' Mental Health

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Abstract: The purpose of this study is to investigate college students and examine the current status of their mental health, so as to provide a basis for improving the mental health of college students. Three hundred and ninety-six college students were selected as the research subjects and their mental health was investigated by questionnaire method. The results showed that: 1.The mean scores of each dimension of SCL-90 and the mean of SCL-90 total score ranged from 1.2654 to 1.7997, which were higher than the theoretical value of asymptomatic (1 point); the SCL-90 total scores were also higher than the theoretical value of asymptomatic (90 points); and the level of college students' mental health was relatively low. 2.The percentage of college students whose mean scores of any dimension of SCL-90, and whose mean of SCL-90 total score reached the score of the positive symptom determination ranged from 9.09% to 31.06%; the percentage of college students whose total scores on the SCL-90 reached the positive symptom determination score was 16.41%; and the incidence of mental health problems among college students is relatively high. 3.Effective and feasible methods to improve college students' mental health have been proposed. This study not only investigates the current situation of college students' mental health, but also provides empirical support and theoretical guidance for improving college students' mental health.
Keywords: mental health; SCL-90; enhancement; college students

1 Introduction

Today's society is developing rapidly, and college students need to work hard and learn continuously before they can adapt to the requirements of social development for talents [1]. College students face pressure from many aspects, such as: study, environment, employment, economy, emotional factors, etc., which can produce serious threats to both physical health and mental health of college students [2], which may trigger mental health problems of college students [3], so college students have a low level of mental health.

The mental health problems of college students have received attention from all walks of life. In recent years, some studies have investigated the percentage of mental health problems among Chinese college students, but the results vary widely, with the percentage of anxiety, for example, reported from 0.66% to 82.5% [4][5]. At present, the status of mental health problems among college students still shows a diverse detection percentage [6]. Therefore, there is a great need to conduct a survey on the mental health of college students to determine the true status of their mental health.

On the basis of existing studies, this study proposes efficient and feasible methods to enhance the mental health of college students based on the current status of college students' mental health and relevant literature on enhancing college students' mental health, in order to better serve college students and society.

2 Research methods
2.1 Subjects

In this study, a web-based questionnaire was distributed to a university in Shanxi Province, and after excluding invalid questionnaires, 396 valid questionnaires were obtained. 80 (20.2%) freshmen, 119 (30.1%) sophomores, 111 (28.0%) juniors, and 86 (21.7%) seniors; 220 (55.6%) males and 176 (44.4%) females.
2.2 Research Instruments
2.2.1 Basic Information Questionnaire

The Basic Information Questionnaire for Subjects contains demographic characteristics of the subjects, including information on age, gender, grade level, major, and many other aspects.
2.2.2 Symptom Check List-90（SCL-90）

The scale was compiled in 1975, its author is L.R. Derogatis [7], it is one of the most famous mental health scales in the world, this scale is currently the most commonly used mental health measurement tool within China, it is widely used for screening mental health problems, the higher the score the worse the mental health status. The higher the score, the worse the mental health status. When the mean scores of any dimension of SCL-90, the mean of SCL-90 total score exceeds 2; or the total score of the scale exceeds 160, the subject needs to be considered as a positive symptom. The scale has high reliability and validity. It can fully reflect the whole psychological and behavioural picture of the subject. It is composed of ten factors, including somatisation, obsessive-compulsive symptoms, interpersonal sensitivity, depression, anxiety,

hostility, phobic-anxiety, paranoid ideation, psychoticism, and additional items, which can reflect the mental health status of the subjects in a more comprehensive way [8][9][10][11].

3 Results

3.1 Basic descriptive statistical analysis of SCL-90 among college students

Table 1 Descriptive analysis of SCL-90

Variant	N	MIN	MAX	M	SD
Somatization	396	1	3.42	1.2654	0.42146
Obsessive-compulsive	396	1	3.8	1.7997	0.55755
Interpersonal sensibility	396	1	3.89	1.5572	0.57024
Depression	396	1	3.85	1.4744	0.57208
Anxiety	396	1	3.5	1.3886	0.50017
Hostility	396	1	4.17	1.359	0.52769
Phobic-anxiety	396	1	3.71	1.3611	0.53184
Paranoid ideation	396	1	3.33	1.3001	0.45618
Psychoticism	396	1	3.6	1.3586	0.47681
Additional items	396	1	3.71	1.3849	0.50541
Mean of Total Score	396	1.03	3.14	1.4335	0.44524
Total Score	396	93	283	129.0126	40.07155

The data in Table 1 show descriptive statistics for the ten SCL-90 dimensions, the mean of SCL-90 total score, and the total score. Combining the different number of questions and mean scores for each dimension, it can be seen that the mean scores of each dimension of SCL-90 and the mean of SCL-90 total score ranged from 1.2654 to 1.7997, which were higher than the theoretical value of asymptomatic (1 point). Somatisation scores were the lowest and obsessive-compulsive scores were the highest. The SCL-90 total scores were also higher than the theoretical value of asymptomatic (90 points). This indicates that the level of college students' mental health was relatively low.

3.2 Analysis of SCL-90 positive symptoms among college students

Table 2 Analysis of SCL-90 positive symptoms among college students

Variant	Number of positives	Percentage
Somatization	36	9.09
Obsessive-compulsive	123	31.06
Interpersonal sensibility	83	20.96
Depression	64	16.16
Anxiety	45	11.26
Hostility	47	11.87
Phobic-anxiety	60	15.15
Paranoid ideation	39	9.85
Psychoticism	45	11.36
Additional items	54	13.64
Mean of total score	42	10.61
Total score	65	16.41

The data in Table 2 show that:The percentage of college students whose mean scores of any dimension of SCL-90, and whose mean of SCL-90 total score reached the score of the positive symptom determination ranged from 9.09% to 31.06%. The lowest positive symptom percentage was 9.09 for somatisation and the highest positive symptom percentage was 31.06 for obsessive-compulsive. the percentage of college students whose total scores on the SCL-90 reached the

positive symptom determination score was 16.41%. This indicates that a portion of college students have positive symptoms of mental health problems to varying percentage. This indicates that the incidence of mental health problems among college students is relatively high.

3.3 Differential analysis of SCL-90 in demographic characteristics

Table 3 ANOVA tests of SCL-90 on grade Levels

Grade	M	SD	F	LSD
Freshman year（N=80）	1.2822	0.32584		
Sophomore year（N=119）	1.5252	0.47639	4.929**	1<2 1<3 1<4
Junior year（N=111）	1.434	0.48123		
Senior year.（N=86）	1.4465	0.4175		

Note: ** denotes P < 0.01. 1 = Freshman year; 2 = Sophomore year; 3 = Junior year; 4 = Senior year.

The data in Table 3 show that a one-way ANOVA test of the variables on grade level showed significant differences (F = 4.929, p < 0.01) among grades on the mean of SCL-90 total scores. After LSD post hoc test, it was found that on the mean of SCL-90 total scores, freshman year students were significantly lower than sophomore year students (mean difference I-J = -0.24299, P < 0.01), junior year students (mean difference I-J = -0.15181, P < 0.01), and senior year students (mean difference I-J = -0.16429, P < 0.01). That is, the level of mental health of freshman year students is higher than that of sophomore year, junior year , and senior year students.

4 Discussion
The mean scores of each dimension of SCL-90 and the mean of SCL-90 total scores ranged from 1.2654 to 1.7997, which were higher than the theoretical value of asymptomatic (1 point). Obsessive-compulsive dimension scored is the highest. The obsessive-compulsive dimension is the main manifestation of intense anxiety and obsessive-compulsive behaviours. Although its exact cause is still unclear, studies have found that it may be related to the enormous pressure of education in China, which is more efficient and skillful than European-American education. However, in Europe and America, education is human-centred, based on the human instinct to learn, and dominated by a form of free-range parenting. In China, there are more rules that students need to follow [12], and this perception of the rules of education, coupled with the day-to-day high intensity of educational training and the pressure to advance to higher education, has a negative impact on college students, which may lead to the occurrence of obsessive-compulsive symptoms in college students.
The percentage of mental health problems among college students is relatively high, and in general, the percentage of depression, anxiety, sleep problems and self-injury among college students in China is high [13][14], and the overall mental health of college students is worrying, which should be highly alerted by the whole society. Studies have shown that the mental health of college students is affected by many factors, such as the economy, parents' marital status, etc. [15], and many of these factors can have a negative impact on mental health to a greater or lesser extent.
There was also a significant difference among the grades in the mean of the SCL-90 total scores, similar to the results of previous studies [16][17]. The higher mental health of freshman year students may be related to the fact that freshman year students are new to the university. They are in a relaxed mood and haven't had a chance to experience all the stresses of college. Therefore, the stress level of freshmen students is relatively low, the mean of SCL-90 total score is relatively low, and the mental health level is relatively high. On the other hand, sophomores, juniors, and seniors need to face the study of professional courses, another promotion to graduate college selection exams, the pressure of employment, and the pressure of interpersonal relationships, etc., which may have a negative impact on their mental health. Therefore, non-freshmen year students have higher mean of SCL-90 total scores and lower mental health [18].

5 Enhancement of mental health of college students
5.1 Enhancement of college students' mental health through family care and education
Family care is an important source of psychological support for individuals and has a great influence on their psychology. Parents should care for college students, even if they have already become adults. Family support can improve the psychological strength of college students and help them cope with stress. At the same time, attention should also be paid to family education, parents should also timely mental health education for adult college students, so that they can master certain mental health knowledge and methods to enhance social adaptability [19].
5.2 Enhance the mental health of college students by offering mental health courses
To provide suitable mental health courses for college students and optimise the university's mental health course system. Let college students quickly improve their mental health level by efficiently mastering mental health knowledge [20]. Mental health knowledge can change the content and scope of college students' perceptions of the world, can help them learn to understand the outside world from a positive perspective, and can make them more tolerant of the outside world.

Moreover, mental health courses are offered in a one-to-many mode, where one teacher can teach dozens or even hundreds of college students at the same time, which is a very efficient way to improve the mental health of college students.

5.3 Enhancement of college students' mental health through psychosocial service model

Mental health service organisations in society are an important force in serving the mental health of the nation. Mental health services in the society are diverse: there are for individuals, there are for groups; there are conversation and counselling type, there are art and dance type. College students can choose the mental health service that suits them according to their needs [21]. At the same time, we can also promote a positive mental health culture through various ways in the society to promote the development of college students' mental health.

5.4 Enhance the mental health of college students by making full use of new type of media and network technology

Make full use of the new network information transmission technology and dissemination methods to increase the channels for mental health literacy development. We should promote the mental health education of college students to keep up with the changes of the times and understand the needs of college students. We should disseminate the concept of mental health through channels and methods that appeal to college students. By making full use of new media platforms such as WeChat , Douyin video, microblogs, websites and other new media platforms that are highly browsed, interactive to students, we can better provide university students with all kinds of online mental health knowledge and publicity of mental health services. It can also make use of video conferencing APPs such as Dingtalk and Tencent Meeting to carry out online mental health counselling and services for college students. So that students can enjoy diversified mental health services provided through science and technology in safe and convenient conditions, and get rid of psychological distress as soon as possible [22].

5.5 Enhancing the mental health of college students through the all-round mental health service system

By mobilising more forces and institutions in the whole society, it is necessary to jointly establish an all-round college student mental health service system with multi-party collaboration. According to previous research, there are many factors affecting the mental health of college students [23]. Therefore, it is necessary to unite more relevant social organisations, enterprises and governments to jointly improve the mental health level services for college students. Eventually, the all-round mental health service system will promote the improvement of college students' mental health.

6 Conclusion

（1）The mean scores of each dimension of SCL-90 and the mean of SCL-90 total score ranged from 1.2654 to 1.7997, which were higher than the theoretical value of asymptomatic (1 point); the SCL-90 total scores were also higher than the theoretical value of asymptomatic (90 points); and the level of college students' mental health was relatively low.

（2）The percentage of college students whose mean scores of any dimension of SCL-90, and whose mean of SCL-90 total score reached the score of the positive symptom determination ranged from 9.09% to 31.06%; the percentage of college students whose total scores on the SCL-90 reached the positive symptom determination score was 16.41%; and the incidence of mental health problems among college students is relatively high.

（3）Effective and feasible methods to improve college students' mental health have been proposed.

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