

Research on the SCL-90 and UPI Investigation of Freshmen's Mental Health in a Chinese College

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ABSTRACT

This study used two professional psychological testing tools, SCL-90 and UPI, to evaluate the psychological status of all 2020 freshmen in a Chinese private college. After the investigation it is found that among the 2275 measured freshmen, the SCL-90 results showed 501 abnormalities, accounting for the total 22% of people measured. It showed a clear upward trend compared with the 18.53% of the general survey results of the previous year. Besides, the UPI results showed that there were 502 abnormal results, accounting for 22.07% of the total number of people measured, and there was an upward trend compared with 15.34% last year. Considering the results of this census, it is necessary to carry out targeted mental health education and counseling works.

Keywords: *College Students, Mental Health, SCL-90, UPI.*

1. INTRODUCTION

With the expansion of the enrollment scale of Chinese colleges and universities, more and more college students enter the campus, and more and more college students are unable to adapt to the pace of university life and learning, unable to deal with interpersonal or personal relationship problems, leaving psychological trauma. The serious ones finally chose to give up their studies. In order to fully understand the overall mental health of 2020 freshmen, improve their mental health awareness, and help students to get through the "adaptation barrier" when they first enter the university, the Mental Health Center of the Student Affairs Office in one Chinese college conducted a mental health survey for the freshmen on October 12th to 18th, 2020. The scales used in this census mainly include two professional psychological testing tools, namely the "Symptom Self-Rating Scale SCL-90" (hereinafter referred to as SCL-90) and the "University Personality Inventory UPI" (hereinafter referred to as UPI). According to previous studies and other colleges and universities, these two scales can comprehensively assess the mental health of college students. The census test platform is Xinhai Software, and students can choose to log in on the computer or mobile terminal to

facilitate students to complete the psychological census.

The total number of 2020 freshmen is 2278, including 670 boys and 1,608 girls. The results of this census showed that 2277 people were tested on SCL-90, with a coverage rate of 99.96%, and 1 person was not tested. The test found 501 abnormal, accounting for 22% of the total number of people tested, which is obvious upward trend compared to the previous year's census result of 18.53%. UPI measured 2275 people and 3 untested, with a coverage rate of 99.87%. The test found that there were 502 abnormal results, accounting for 22.07% of the total number of people tested, and there was an upward trend compared with 15.34% last year. It is imperative to pay attention to the mental health of college and university students, and adopt relevant countermeasures to improve the mental health of college students.

2. TESTING TOOLS

This census adopted the form of online testing, using the SCL90 and UPI scales of the "Xinhai Software School Psychological Management System" to assess the mental status of freshmen.

2.1. SCL-90

The Symptom Check List-90 (SCL-90) is one of the most famous mental health test scales in the world, and it is also the most widely used mental disorder and mental illness outpatient checklist. The scale assesses whether an individual has certain psychological symptoms and their severity from various perspectives such as feelings, emotions, thinking, consciousness, behavior, living habits, interpersonal relationships, diet and sleep. Studies have shown that the scale has good distinguishing ability for individuals who have psychological symptoms (that is, they may be on the edge of psychological disorder or psychological disorder). It is suitable for testing the possibility of an individual in a certain population, the type and severity of the psychological disorder.

2.2. UPI

The University Personality Inventory (UPI) is a mental health questionnaire compiled for early detection and early treatment of students with psychological problems. The questionnaire was compiled by a collective of Japanese university counselors and psychiatrists who participated in the All-Japan University Health Management Association in 1966. UPI is mainly targeted at university freshmen, and is used as a mental health status survey at the time of admission to understand students' neurosis, psychosomatic disorders, schizophrenia, and various other students' troubles, confusion, dissatisfaction, conflicts, etc. This questionnaire was introduced to China in 1991, and it was systematically revised and processed by the College Student Psychological Counseling Professional Committee of the Chinese Mental Health Association. At present, the rating scale has become a commonly used scale for the mental health survey of college students China. The biggest advantage of the UPI questionnaire is that it is relatively simple to operate and can quickly screen out students who may have psychological

problems with a large-scale group test.

UPI has a total score of 56 points. Students are divided into three categories based on their scores. The first category is those who have a total score of 25 points or more (including 25 points), or those who make a positive choice for question 25 "want to commit suicide"; the second category is the total score Those who score between 20 and 25 points (including 20 points, excluding 25 points), or Question 8 "My past and family are unfortunate", Question 16 "I often suffer from insomnia", Question 26 "Does anything There is an affirmative choice in the middle of "Not interested"; those who do not belong to the first two categories are classified as the third category. Students in the first category may have obvious psychological problems and require further evaluation.

3. TESTING RESULTS

3.1. Results of SCL-90

In this census, the standard for SCL-90 results to show abnormality is: any factor score bigger than 2.5 points. Particular attention should be paid to those with a factor score of 3 or more. The results showed that among the 2278 freshmen, 501 had abnormal results, accounting for 22% of the total number of students tested. Compared with the 18.53% of the general survey results of the previous year, there was a clear upward trend.

First of all, the total score and the detection rate of each factor score are released.

It can be seen from Table 1 that the detection rate of SCL-90 total score is 4.21%; among the factors, the detection rate of compulsive and interpersonal sensitivity is the highest, reaching 16.07% and 10.8%, respectively, compared with 12.21% and 7.64 in the previous year. There is an upward trend, especially the forced detection rate is nearly four percent higher than

Table 1. SCL-90 Total Score and Detection Rate of Each Factor

Item	Number of people tested	Number of people detected	Detection rate 2020	Detection rate 2019	Detection rate 2018
Total Score	2277	96	4.21%↑	3.07%↑	2.46%
Somatization	2277	46	2.02%↑	1.89%↑	1.32%
Forced	2277	366	16.07%↑	12.21%↑	10.41%
Interpersonal sensitivity	2277	246	10.8%↑	7.64%↑	7.11%
Depression	2277	154	6.76%↑	5.14%↑	3.73%
Anxiety	2277	139	6.10%↑	4.61%↑	4.13%
Hostile	2277	126	5.53%↑	4.87%↑	4.26%
Horror	2277	93	4.08%↑	3.51%↑	2.64%
Paranoid	2277	129	5.65%↑	4.79%↑	4.13%
Psuhotic	2277	102	4.48%↑	3.56%↑	2.55%

Use factor score ≥ 2.5 as the screening standard

last year; the somatization detection rate is the lowest, only 2.02%.

Then, we compare the scores of our freshmen on SCL-90 factors with the national norm. The results are shown in Table 2.

It can be seen from Table 2 that the scores of somatization, interpersonal sensitivity, depression, and hostility factors of our college students are equal to the national norm, indicating that the freshmen in our hospital are not more obvious than the normal population in these symptoms. However, the five factors of compulsion, anxiety, terror, paranoia, and psychosis are all higher than the national norm for college students. The compulsive score is higher than the national level, indicating that the students in our college are pursuing perfection and demanding of themselves, and may not be flexible enough in their study and life. The anxiety score is higher than the national level, indicating that some students may be easily nervous and nervous. They are higher than the national level, meaning that our college students may be too restrained, worried, and not open enough in social places; high paranoid scores indicate that they are more stubborn and insist on their own ideas; psychosis is higher than the norm, indicating that students' Changes are too sensitive and easy to mood swings. These problems may become the focus and difficulty of our hospital's future mental health education work.

3.2. Results of UPI

In this census, the standard for abnormal results is: the total score is greater than or equal to 25 points or the person who is the affirmative choice of question 25. The results showed that among the 2275 measured

freshmen, 502 had abnormal results, accounting for 22.07% of the total measured number, which is an upward trend from last year's 15.34%.

Among the 60 mental health symptom items of UPI, 4 key symptom items (i.e., questions 8, 16, 25, and 26) can reflect some of the students' mental health conditions to a considerable extent.

As shown in Table 3, among the 2020 freshmen, there are 139 students who "want to commit suicide", accounting for 6.1% of the total number of students measured; 129 "often insomnia", accounting for 5.7%; they think "their past and family are unfortunate "156 students, accounting for 6.9%; "not interested in anything" 147 people, accounting for 6.5%. Compared with the 2018 and 2019 census data, it is found that, except for the increase in the detection rate of "wanting to commit suicide," the detection rate of the other three key questions has decreased significantly.

The possible reasons are: the negative influence brought about by the past growth experience; the psychological confusion or even the psychological obstacle before the university has not been solved and continued to the university; the psychological flexibility is low. Freshmen are prone to some adaptation problems when they first enter school. The above factors require further understanding and attention.

Among the 2020 freshmen, 4.97% took the initiative to ask clear questions, which is a relatively low percentage, which is a slight increase from 3.96% in 2019, but is relatively the same as 4.28% in the 2016 census. This shows that quite a few students know that they have problems, but for various reasons (perhaps lack of knowledge or embarrassment) are reluctant to ask questions. For this reason, mental

Table 2. Comparison of SCL-90 Scores of Freshmen in Our School With The National Norm

Factor	Statistics (2277 people)		The norm for national college students (M±SD)
	Mean score (M)	Standard deviation (SD)	
Somatization	1.41	0.39	1.37±0.48
Forced	1.91↑	0.56	1.62±0.58
Interpersonal sensitivity	1.75	0.60	1.65±0.61
Depression	1.58	0.54	1.50±0.59
Anxiety	1.61↑	0.49	1.39±0.43
Hostile	1.50	0.50	1.46±0.55
Horror	1.45↑	0.47	1.23±0.41
Paranoid	1.53↑	0.50	1.43±0.57

Table 3. Detection Rate of Key Items Related To Depression and Suicide in UPI

Item	Number of people tested	Number of people detected	Detection rate 2020	Detection rate 2019	Detection rate 2018
Want to commit suicide	2275	139	6.1%↑	4.1% ↑	3.8%
Often insomnia	2275	129	5.7%↓	8.8% ↑	8.6%
Past misfortune	2275	156	6.9% ↓	12.6% ↑	9.8%
No interest	2275	147	6.5% ↓	8.6% ↑	6.8%

health education and publicity work has a long way to go, and there is still a lot of work to be done urgently.

4. SECONDARY SCREENING AND INTERVIEW

4.1. Secondary Screening

Combining the above data, SCL-90 and UPI detected 501 and 502 abnormal students, respectively. Taking into account the limited human resources and the limitations of the scale itself, the Mental Health Center of the Student Office conducted a second screening and sorting out the test results. Afterwards, the grading treatment is carried out, as shown in table 4. Students who may have depression, suicide risk, and abnormalities in multiple indicators at the same time are screened out as first-level (Level 1) abnormal students and interviewed by the mental health center; students with abnormal individual indicators as second-level (Level 2) abnormal students, and counselor Have an interview; the rest are students with abnormal level 3, and the counselor usually pays attention to them, and there is no need to interview immediately.

Table 4. Classification of Secondary Screening

Category	Number (people)	Interviewer
Level 1	141	Psychology Center
Level 2	49	Counselor
Level 3	About 400	usually pay attention

Among them, there are 190 abnormal students in the first and second levels who need to be interviewed. Due to the diverse professional backgrounds of the instructors, in order to ensure the effect of the interview, all the instructors participating in the interview will be trained before the start of the interview, and the conversation notes and skills will be explained in detail At the same time, it explains the identification and diagnosis of some common psychological problems of college students, which will help the counselor complete the interview of the second-level abnormal student and the judgment of the grade classification.

4.2. Interview Results

The interview was completed within two weeks after the end of the measurement. The counselor worked hard to conduct interviews with a total of 190 people, mainly to understand the students' life, study, emotions, and interpersonal adaptation status after entering the university, as well as some aspects of the test. Sensitive items are verified, such as whether there is a thought of committing suicide, etc. Through the

return visit, it was found that the freshmen believed that they had had physical and psychological problems, but fewer people had received psychological consultation and treatment, and half of them had never had psychological consultation. The students' problems mainly involve the following aspects: interpersonal relationship processing, emotional control, learning adaptation, career planning, etc. Among them, there are 10 people who have suicidal tendencies and need continuous consultation (Type A); there are 28 people who have serious mental health problems and need intermittent follow-up by counselors, and inform the school psychological counseling settings to guide them to seek psychological counseling when necessary (Type B), and the rest are those who are currently well-adapted and have no symptoms of discomfort without consultation (Type C). Table 5 shows the trend of change in the past three years. Among the results of the 2018 and 2019 census interviews, 12 people and 9 people need continuous consultation, and 37 people and 17 people need counselor attention or regular interviews, respectively. It can be seen that the incidence of psychological abnormalities and distress among freshmen in the past three years is basically the same, and the mental health center and counselors need to pay close attention.

Table 5. Summary of Interview Results

Type	Level of Attention	2020	2019	2018
A	Continuous consultation is required	10	9	12
B	Consult if necessary	28	17	37
C	Well adapted	152	100	105

5. SUGGESTIONS AND CONCLUSION

In this study, we have the following conclusions:

First, it is important to pay attention to the mental health education survey for freshmen. Mental health education should pay attention to early education, early detection, early prevention, and early control. When freshmen first enter a university campus, significant changes have taken place in their learning environment, living environment, and interpersonal relationships. They will appear in their thoughts, psychology, and behavior. All kinds of contradictions and confusions, which unconsciously enter the "psychological imbalance period." After completing the college entrance examination goals, some freshmen enter a state of confusion, prone to feelings of emptiness and confusion. The mental health survey of freshmen can comprehensively understand the mental state of freshmen, quickly and accurately screen crisis intervention targets, which is conducive to timely understanding of the mental health of students, and early detection, timely intervention, and effective control of freshmen's psychological

problems. Provide reference for the mental health education of schools and colleges, so as to help freshmen to relieve psychological pressure and maintain mental health, help freshmen to better adapt to university life, and promote the school's mental health education to be more scientific and standardized.

Second, about 20% of freshmen have certain psychological hidden dangers, which are showing an upward trend. The psychological problems of freshmen are mainly manifested in obsessive-compulsive symptoms, interpersonal sensitivity, anxiety and depression. In recent years, colleges and universities have paid more attention to the mental health of students, and the publicity of students' mental health education has been greater, and the initiative of students to ask for help has also increased. The analysis found that some of the students come from rural areas, and the number of students with family financial difficulties accounted for more than a quarter of the total. The proportion of poor students is relatively large, they are burdened by family expectations, and they are more prone to inferiority complex, sensitivity, depression, and interpersonal disorders. Problems, a large proportion of poor students also pose challenges to mental health education.

Therefore, we are giving the suggestions below:

Firstly, strengthen the education of mental health knowledge is necessary. Make full use of publicity media such as school newspapers, radio stations, TV stations, and the Internet to promote mental health knowledge, maintain close contact with students' parents, and actively strive for parents to cooperate with the college's psychological crisis intervention work to create a healthy, progressive and life-loving atmosphere. To do a good job in student psychological crisis intervention should be based on education and focus on prevention. We must vigorously carry out life value education among students and guide them to love life, love life, and treat life kindly. Vigorously carry out self-awareness education, guide students to correctly understand themselves, accept themselves happily, actively develop themselves, build self-confidence, and eliminate inferiority. Vigorously carry out crisis response education to improve students' ability to recognize and respond to psychological crises. Organize and guide each class committee and league branch to carry out thematic education activities to help students optimize their personality and psychological quality, enhance their psychological adjustment capabilities, and improve their mental health. Guide college students' psychological associations to organize various mental health education activities with rich content and various forms to form a good mental health education

atmosphere in the college. Let students realize the importance of mental health through publicity, correctly understand mental illness, understand the school's psychological counseling and health education center, and reduce the cognitive and emotional discomfort of freshmen.

Secondly, do a good job in the three-level early warning network. Establish a three-level early warning network for dormitories/classes, departments, and schools to ensure the smooth flow of early warning information. First-level warning is the dormitory/class. Class leaders, student party members, and class psychology committee members should take the initiative to play a key role, strengthen the ideological and emotional connection and communication with classmates through a variety of methods, and understand classmates' ideological dynamics and mentality. Once an abnormal situation is found, report it to the counselor in time. Second-level early warning falls into departments. Party and government leaders and teachers of all departments should care for students and pay close attention to students with abnormal psychology or behavior. Student staff and counselors should go deep among students to understand students' thoughts and psychological conditions, help students solve difficulties, talk with students in a targeted manner, and guide them to learn to use social resources to deal with and resolve difficulties and conflicts they face. If there is an important situation, it should be reported to the leading group in time, and the students should be promptly and orderly intervened under the guidance of the psychological center. Three-level early warning accounts for schools. The Psychology Center is responsible for conducting a general survey of the mental health of all freshmen in the hospital and establishing student mental health files. For the selected high-risk students, we must cooperate with the college to actively carry out crisis prevention or intervention work on them. If psychological counseling teachers and school medical staff find that the visiting college student has a serious psychological crisis, they should report it in time, take necessary intervention measures, and record relevant information in detail. After receiving the crisis alert, the psychological center should immediately evaluate the early warning information, conduct inspections and interviews with the early warning targets, clarify the targets and scope of intervention, and promptly provide crisis intervention suggestions to relevant parties.

Finally, it is essential to establish a rapid response mechanism for crisis intervention and suicide prevention. Once the school discovers suicide or injury to others, it immediately activates the crisis intervention and suicide prevention rapid response mechanism. The school is responsible for rescuing

students who commit suicide or injuries and send them to the hospital in time. For students who have committed suicide or harmed others, if they need to be hospitalized, their parents will be notified to send the students to a professional mental health care institution for follow-up treatment; if they go home and recuperate for treatment, they will benefit their psychological recovery, and their parents will take them after their condition is stable. Take home for recuperation and treatment; students who return to school due to strong suicidal ideation or attempted suicide should be accompanied by their parents. The school arranges for close supervision of class leaders, student party members, or roommates, and formulates preparedness plans for possible crises to prevent the student's psychological condition from deteriorating at any time. The Psychological Center shall periodically assess the degree of its crisis.

REFERENCES

- [1] Frederic Kass, Edward Charles, Donald F. Klein, et al. Discordance Between the SCL-90 and Therapists Psychopathology Ratings. *Archives of General Psychiatry*, 1983, 40(4):389.
- [2] Guo K.J. Analysis of SCL-90 Norm of College Students in Higher Vocational Colleges, *Journal of Xinjiang Radio and Television University*, 2020, 22 (1), 17-20.
- [3] Najman, J.M., Hayatbakhsh, M.R., Clavarino, A., et al. Family Poverty Over the Early Life Course and Recurrent Adolescent and Young Adult Anxiety and Depression: A Longitudinal Study. *American Journal of Public Health*, 2010, 100(09), 1719-1723.
- [4] Wu P. Analysis and Suggestions on Mental Health of Freshmen Based on SCL-90, *Journal of Kaifeng University of Education*, 2018, 39 (8), 21-22.
- [5] Xun Gong. Analysis of Scl-90 Survey Results of Chinese University Freshmen in Recent Five Years and Determination of Their Norm. 2020 3rd International Conference on Advancement of the Theory and Practices in Education (ICATPE 2020)
- [6] Zhang J. EPQ and SCL-90 Statistical Analysis of Mental Health Status of College Students, *China Metallurgical Education*, 2015, 24 (3), 44-48.