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To Compare the Mental Health Status of Students in Higher Vocational Colleges with Different Family Economic Conditions

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Abstract

Background: The mental health status of students in higher vocational colleges (HVC) has been widely concerned. The previous investigations have found that family economic status has a great impact on the mental health of students in higher vocational colleges. Further clarification of its specific relevance is crucial for developing psychological intervention strategies and promoting mental well-being. While previous studies have examined the mental health status of higher vocational college students from varying family economic backgrounds, the experimental designs and observation indicators used have differed significantly, making it challenging to draw conclusive and consistent findings. In light of this, continued research is necessary to address these gaps and provide more reliable and consistent evidence. *Objective:* To compare the mental health status of students in HVC with different family economic conditions. *Methods:* This study conducted an empirical investigation on the mental health status of higher vocational students facing family financial difficulties (FFD). A total of 648 vocational and technical college students were randomly selected as participants, with 381 students experiencing FFD and 267 students without such difficulties. The aim was to examine the psychological characteristics and compare the mental health status of higher vocational students with and without FFD. The study sought to reveal the underlying mechanisms influencing the mental health of higher vocational students facing family financial challenges. *Results:* The scores for obsessive-compulsive symptoms, interpersonal sensitivity, depression, anxiety, and hostility are significantly higher among vocational college students with FFD compared to those without such difficulties ($P < 0.05$). However, the total score on the self-report symptom checklist (SCL-90) is lower for vocational college students with FFD compared to those without such difficulties ($P < 0.05$). Among vocational college students with FFD, male students exhibit higher scores for obsessive-compulsive symptoms, interpersonal sensitivity, depression, anxiety, and hostility compared to female students. Additionally, the total score on SCL-90 is higher for male students than for female students ($P < 0.05$). The scores for somatization, obsessive-compulsive symptoms, interpersonal sensitivity, depression, anxiety, hostility, terror, paranoia, and psychosis are higher among third-grade vocational students with FFD compared to first and second-grade students. Furthermore, the total score on SCL-90 is highest in the third grade, followed by the second grade, and then the first grade ($P < 0.05$). There is no significant difference in the SCL-90 factor scores among vocational college students with financial difficulties. The data variations are not statistically significant ($P > 0.05$). *Conclusion:* The mental health level of family students with financial difficulties is lower than that of non-family students with financial difficulties, and they are more likely to have anxiety, depression and interpersonal sensitive psychological problems. Students with financial issues in their families also vary significantly in terms of gender and grade level when it comes to mental health. The psychological pressure of students with FFD mainly comes from economic pressure, employment pressure and family pressure.

Keywords: Family Economic Status, Higher Vocational Colleges, Mental Health, SCL-90.

Introduction

The government and universities have implemented a comprehensive four-level support system for economically disadvantaged students. This system includes state funding, university scholarships, social assistance, and initiatives for students to support themselves financially. These measures aim to provide material support to economically disadvantaged students, enabling them to fulfill their potential and

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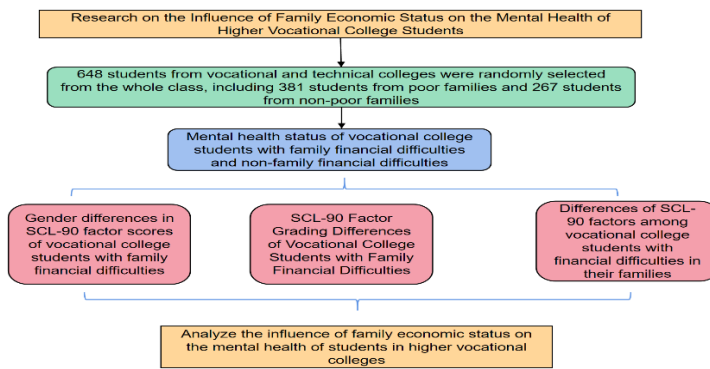
succeed academically [1]. The special psychological characteristics of poor students also lead to psychological problems such as great pressure and difficulties in interpersonal communication [2-3]. In the last several years, a series of campus crisis events caused by poor students' psychological problems have had serious consequences, and the problem of mental health education for poor students has gradually attracted the attention of schools and society. Therefore, in addition to providing financial aid to economically disadvantaged students, it is crucial to enhance their psychological well-being. This involves providing adequate psychological support, nurturing a positive mindset, fostering independence and self-reliance, and promoting the holistic development of both their physical and mental health. This comprehensive approach ensures the overall well-being of economically disadvantaged students [4].

Financial hardships in the family have been a common occurrence among college students, and it has also gained attention as a new area of focus for their ideological and political education [5]. Mental health education plays an indispensable role in addressing various challenges faced by students during their growth and development. It assists in unlocking their potential, addressing psychological distress, enhancing their psychological well-being, preventing mental health disorders, and fostering comprehensive development. Consequently, strengthening mental health education, optimizing students' psychological well-being, and nurturing their psychological potential have become widely acknowledged objectives within the global educational community [6]. The physical and mental development of college students undergoes a transitional phase characterized by rapid maturation but not yet complete maturity. Various factors such as social and environmental changes, academic pressure, life challenges, and intensified competition inevitably impose significant psychological stress on them. Consequently, the party, government, and educational authorities at all levels recognize the importance of enhancing mental health education and enhancing the psychological well-being of students from financially disadvantaged backgrounds [7]. Although previous studies have been carried out to compare the mental health status of higher vocational college students with different family economic conditions, there are significant variations in experimental design and observation indicators, so that convincing and consistent conclusions cannot be obtained. In this context, it remains essential to conduct further in-depth research to establish more scientifically grounded conclusions. The aim is to elucidate the disparities in mental health status among students in higher vocational colleges (HVC) from varying family economic backgrounds. Such research endeavors will serve as a valuable reference for enhancing the mental well-being of students in higher vocational colleges.

Materials and Methods

Research Flow Chart

Fig. 1: Research Flow Chart.



Research and Design

This study carried out an empirical study on the mental health status of higher vocational students with family financial difficulties (FFD). A total of 648 vocational and technical college students were randomly selected as participants for this study. This comprised of 381 students from financially disadvantaged families and 267 students from non-financially disadvantaged families. There were 298 male students and 350 female students among them, with an average age of (21.07 ± 2.56) years. The study included 360 students residing in rural areas and 288 students residing in cities and towns. The aim of this investigation is to examine the mental health status of higher vocational students from financially disadvantaged families, discussing their psychological characteristics, and comparing their mental health status with that of higher vocational students from non-financially disadvantaged backgrounds. The ultimate goal is to uncover the influence mechanisms on the mental health of higher vocational students from financially disadvantaged families.

Inclusion criteria for this study included students who were aware of and agreed to participate. An informed consent form was needed to be signed by each participant. Additionally, participants were required to have good cognitive abilities and be able to effectively cooperate with the research procedures.

Exclusion criteria consisted of individuals who were currently participating in other studies or had previously participated in similar research projects. Participants who dropped out of the study were also excluded from the analysis.

Calculation formula of sample size:

$$n = 2 \times \left[\frac{(u_{\alpha} + u_{\beta}) \times \sigma}{\delta} \right]^2$$

U_{α} -the u value corresponding to the level α ;

U_{β} value corresponding to u β -II error probability β ;

δ -the difference between the two population averages, $\delta = \mu_1 - \mu_2$;

σ -overall standard deviation.

Bilateral α is 0.05, β is 0.1, and the look-up table is $0.05/2 = 1.96$, $u_{0.1}=1.282$. Taking the total score of SCL-90 as the effect index, we consulted relevant literature and previous research (Wang Pin, Chen Jinhuan, Zhang Chaoqing. The influence of family economic status on the mental health level of freshmen in higher vocational colleges [J]. After-school education in China (next issue), 2016 (October): 16, 26.), $\delta=3.44$, $n_1 = n_2 = 45$, $S_1 = 5.23$, $S_2 = 6.32$, and $\sigma = 4.19$ is obtained by substitution. The calculated sample size was 589 cases, calculated with the shedding rate of 10%.

Methods

The Symptom Check-LIST90 (SCL-90) [8] was used to conduct a questionnaire survey on the mental health status of all college students participating in this study, and the questionnaire star was used to conduct a collective network test. The specific contents of the scale include: psychosis, paranoia, fear, hostility, anxiety, depression, interpersonal sensitivity, obsessive symptoms, somatization, others, and total score. A total of 10 dimensions and 90 items were included. The Likert 5-level scoring method was utilized in this study, with 1 indicating the absence of clinical symptoms and 5 denoting severe clinical symptoms. Higher scores on this scale corresponded to a greater severity of clinical symptoms. Following the investigation, the scores of various factors were analyzed to determine the differences

between vocational students from financially disadvantaged families and those from non-financially disadvantaged families. Additionally, the SCL-90 factor scores were compared among vocational students of different genders, grades, and geographic origins. The investigation and subsequent analysis will commence once the study's initiation has been confirmed.

Statistical Analysis

The measurement data were checked using variance homogeneity analysis and normal distribution before statistical analysis, which satisfied the criteria of normal distribution or approach normal distribution, represented as ($\bar{x} \pm s$). The data were processed using SPSS23.0 statistical software. The one-way ANOVA (F test) was used to compare the three groups, and the independent sample t-test was employed to compare the two groups. Furthermore, the counting data were represented by n (%), and the statistical significance of the difference was shown by the χ^2 test ($P < 0.05$).

Results

Mental Health Status of Higher Vocational Students with Family Economic Difficulties and Non-Family Economic Difficulties

The scores of hostility, anxiety, depression, interpersonal sensitivity and obsessive-compulsive symptoms of vocational college students with FFD were higher than those of vocational college students with non- FFD. Additionally, the total score of SCL-90 was lower than that of vocational college students with non- FFD ($P < 0.05$). Table 1 displays all of the data findings. Table 1 Mental health status of vocational college students with FFD and non- FFD

| Group | Family Financial Difficulties (N=381) | Non-Family Financial Difficulties (N=267) | T | P |
|-------------------------------|---------------------------------------|---|--------|-------|
| Somatization | 1.22±0.21 | 1.19±0.21 | 1.789 | >0.05 |
| Obsessive-compulsive symptoms | 1.48±0.24 | 1.23±0.14 | 15.292 | <0.05 |
| Interpersonal sensitivity | 1.38±0.31 | 0.99±0.12 | 19.552 | <0.05 |
| Depression | 1.42±0.22 | 1.02±0.32 | 18.857 | <0.05 |
| Anxiety | 1.41±0.18 | 1.04±0.22 | 23.478 | <0.05 |
| hostile | 1.29±0.12 | 1.05±0.34 | 12.699 | <0.05 |
| Horror | 1.24±0.16 | 1.22±0.22 | 1.339 | >0.05 |
| Paranoia | 1.29±0.23 | 1.28±0.22 | 0.554 | >0.05 |
| Psychosis | 1.22±0.12 | 1.20±0.32 | 1.113 | >0.05 |
| Other | 1.24±0.23 | 1.23±0.23 | 0.544 | >0.05 |
| Total score | 117.19±10.43 | 122.94±10.29 | 6.945 | <0.05 |

Different Gender in SCL-90 Factor Scores of Higher Vocational College Students with FFD

The scores of hostility, anxiety, depression, interpersonal sensitivity and obsessive-compulsive symptoms of male students in HVC with FFD are higher, and the total score of SCL-90 is higher ($P < 0.05$). Table 2 displays all of the data findings.

Table 2: Different Gender In SCL-90 Factor Scores of Higher Vocational Students from Families with Financial Difficulties.

| Group | Male (n=148) | Female (n=233) | t | P |
|-------------------------------|--------------|----------------|--------|-------|
| Somatization | 1.32±0.21 | 1.33±0.23 | 0.427 | >0.05 |
| Obsessive-compulsive symptoms | 1.58±0.23 | 1.42±0.54 | 3.412 | <0.05 |
| Interpersonal sensitivity | 1.45±0.12 | 1.12±0.22 | 16.730 | <0.05 |
| Depression | 1.46±0.26 | 1.09±0.32 | 11.805 | <0.05 |
| Anxiety | 1.67±0.22 | 1.04±0.13 | 35.124 | <0.05 |
| Hostile | 1.67±0.25 | 1.01±0.15 | 32.204 | <0.05 |
| Horror | 1.17±0.13 | 1.12±0.33 | 1.757 | >0.05 |
| Paranoia | 1.22±0.17 | 1.23±0.16 | 0.580 | >0.05 |
| Psychosis | 1.23±0.23 | 1.24±0.12 | 0.555 | >0.05 |
| Other | 1.22±0.14 | 1.23±0.14 | 0.679 | >0.05 |
| Total score | 125.18±12.54 | 117.53±8.43 | 7.119 | <0.05 |

Different Grade of SCL-90 factors of higher vocational college students with FFD

The scores of psychosis, paranoia, terror, hostility, anxiety, depression, interpersonal sensitivity, obsessive-compulsive symptoms and somatizations in the third grade of higher vocational students with FFD were higher than those in the first and second grades, and the total score of SCL-90 was higher in the third grade > the second grade > the first grade (P<0.05, Table 3).

Table 3: Different Grade Of SCL-90 Factors of Higher Vocational Students from Families with Financial Difficulties.

| Group | First Grade n=104 | Second Grade n=105 | Third Grade N=172) | F | P |
|-------------------------------|-------------------|--------------------|--------------------|---------|--------|
| Somatization | 1.04±0.21 | 1.22±0.12 | 1.38±0.21 | 105.341 | < 0.05 |
| Obsessive-compulsive symptoms | 1.35±0.25 | 1.42±0.32 | 1.58±0.23 | 27.754 | < 0.05 |
| Interpersonal sensitivity | 1.23±0.12 | 1.45±0.21 | 1.77±0.21 | 57.421 | < 0.05 |
| Depression | 1.11±0.23 | 1.23±0.23 | 1.44±0.15 | 276.775 | < 0.05 |
| Anxiety | 1.02±0.23 | 1.22±0.12 | 1.48±0.16 | 97.272 | < 0.05 |
| Hostile | 1.12±0.21 | 1.23±0.23 | 1.39±0.23 | 238.429 | < 0.05 |
| Horror | 1.16±0.16 | 1.25±0.11 | 1.49±0.23 | 145.734 | < 0.05 |
| Paranoia | 1.03±0.25 | 1.23±0.14 | 1.37±0.22 | 117.937 | < 0.05 |
| Psychosis | 1.04±0.14 | 1.24±0.12 | 1.48±0.12 | 409.887 | < 0.05 |
| Other | 1.22±0.12 | 1.23±0.13 | 1.22±0.21 | 0.133 | > 0.05 |
| Total score | 114.75±12.24 | 123.94±11.53 | 134.81±12.18 | 93.121 | < 0.05 |

The Difference of SCL-90 Factor Scores of Higher Vocational College Students with FFD

There is no significant difference in SCL-90 factor among vocational college students with financial difficulties (P>0.05). Table 4 displays all of the data findings.

Table 4: The Differences of SCL-90 Factors Among Students from HVC with Financial Difficulties.

| Group | Rural areas (n=241) | Town (n=140) | t | P |
|-------|---------------------|--------------|---|---|
|-------|---------------------|--------------|---|---|

| | | | | |
|-------------------------------|--------------|--------------|-------|--------|
| Somatization | 1.31±0.16 | 1.35±0.32 | 1.623 | > 0.05 |
| Obsessive-compulsive symptoms | 1.22±0.18 | 1.22±0.12 | 0.000 | > 0.05 |
| Interpersonal sensitivity | 1.55±0.14 | 1.53±0.17 | 1.240 | > 0.05 |
| Depression | 1.45±0.22 | 1.42±0.25 | 1.219 | > 0.05 |
| Anxiety | 1.40±0.23 | 1.39±0.22 | 0.415 | > 0.05 |
| Hostile | 1.16±0.22 | 1.12±0.29 | 1.517 | > 0.05 |
| Horror | 1.12±0.19 | 1.12±0.21 | 0.000 | > 0.05 |
| Paranoia | 1.23±0.14 | 1.25±0.32 | 0.841 | > 0.05 |
| Psychosis | 1.24±0.22 | 1.24±0.38 | 0.000 | > 0.05 |
| Other | 1.22±0.19 | 1.22±0.16 | 0.000 | > 0.05 |
| Total score | 125.21±10.67 | 126.63±12.74 | 1.164 | > 0.05 |

Discussion

The policy system for student financial aid in colleges and universities has undergone continual improvement. Concurrently, financial aid education has been reinforced, evolving towards more comprehensive funding programs, increased financial assistance, elevated funding standards, and broader eligibility criteria. Consequently, student financial aid has become more precise and effective, enabling a greater extent of fair educational opportunities for students from financially disadvantaged backgrounds [9-10]. Higher education vocational schools have reacted well to national initiatives. Higher vocational institutions have been providing more assistance to students from low-income households in order to enable them successfully finish their courses in recent years. In comparison to other traditional colleges and universities, a majority of students in HVC come from relatively favorable family backgrounds. However, even though the overall number of students from financially disadvantaged families is relatively small, as a distinct subgroup within a predominantly financially secure student population, they are more prone to encountering a range of challenges including academic difficulties, interpersonal sensitivity, and employment-related obstacles [11-13]. Based on a comprehensive understanding of the actual challenges, categorization, and severity levels faced by students from financially disadvantaged families, independent colleges provide financial aid in accordance with national policies. Moreover, it is worth exploring and contemplating effective measures for providing spiritual motivation and psychological support to students with financial difficulties [14-15].

There is less of a clear difference now between the psychological issues of students with family financial challenges and those of students without family financial troubles[16]. Currently, most colleges and universities have initiated the dissemination of mental health education courses and implemented psychological counseling services. In the case of the HVC surveyed by the researchers, mental health courses have been incorporated into the curriculum for freshman students. Furthermore, the schools have established a mental health education development center, which is staffed with dedicated full-time psychological counselors. Additionally, various secondary colleges within the institution have established additional counseling stations to promptly address students' psychological concerns. Through the administration of a questionnaire survey, it was observed that students possess a clear awareness of their own psychological well-being and express approval for the efforts made by the school in providing mental health education [17]. Based on the findings of this study, it was observed that vocational college

students facing FFD have relatively good mental health, as indicated by the average value of their SCL-90 scores. However, there is a high prevalence of interpersonal sensitivity and obsessive-compulsive symptoms in this group. These results suggest that students with financial difficulties may experience cognitive impairments and exhibit sensitivity, which may contribute to their reluctance in engaging with others. The scores of hostility, anxiety, depression, interpersonal sensitivity and obsessive-compulsive symptoms of male students in HVC with FFD are higher, and the total score of SCL-90 is higher than that of female students. The male students with financial difficulties in HVC are generally the main labor force in their families. These students face great expectations from their families and are under immense pressure to overcome the constraints of their family's financial difficulties. However, they exhibit a strong sense of mistrust towards the outside world and are reluctant to seek assistance when faced with challenges. The results of the follow-up questionnaire survey exhibit that among the 148 boys with financial difficulties in their families, and 46.99% of them turn to themselves and their families for help when they encounter psychological problems.

The scores for psychosis, paranoia, terror, hostility, anxiety, depression, interpersonal sensitivity, obsessive-compulsive symptoms and somatization were found to be higher among third-grade higher vocational students facing FFD compared to those in the first and second grades. Moreover, the total SCL-90 score followed a pattern where the scores were higher in the third grade, followed by the second grade, and then the first grade. There are notable variations in the mental health of higher vocational students with FFD. The mental health score of higher vocational students with FFD in Grade 3 is significantly higher than that in Grade 1 and Grade 2; there isn't considerable difference in mental health between Grade 1 and Grade 2. The emergence of this phenomenon is closely related to the special stage of the third-year higher vocational students. When higher vocational students enter the third grade, they face the stage of internship. For most students, the cost during the internship period becomes higher than that during the school period, especially for medical majors, their financial pressure is more significant [18]. During this stage, students have high expectations of achieving financial independence. However, various realistic factors such as academic pressure during internships and new interpersonal challenges can exacerbate their psychological difficulties. It is crucial to emphasize the significance of school care and education for this particular group. Schools should prioritize mental health education for third-grade interns and offer essential support and guidance to assist them in effectively managing various pressures, thereby ensuring their overall well-being. For higher vocational students with FFD, there are notable variations in mental health status among different grades. Schools and society should pay attention to the special needs of third-grade higher vocational students and provide necessary support and help to promote their overall growth, emotional and physical well-being [19].

With the continuous development of social economy, the gap between urban and rural areas is gradually narrowing. In this context, the SCL-90 factor scores of higher vocational students with FFD are not significantly different among the places of origin, and the results of this study are consistent with the current social situation. In previous studies, there are some differences in mental health between students from rural and urban families with financial difficulties. With the implementation of the precise poverty alleviation policy, the family economic problems of higher vocational students with FFD have been effectively improved, thus eliminating the mental health differences between them [20]. In this study, a comprehensive analysis was conducted to examine the variations in SCL-90 factor scores among students from different geographic origins. By comparing the data of higher vocational students facing FFD from rural, urban, and urban areas,

it was determined that the differences were not statistically significant. This finding suggests that the mental health status of higher vocational students with FFD is no longer influenced by their geographic origins in the current social context. In addition, the mental health problems of higher vocational students with FFD are no longer limited to a certain area or a certain group. When developing mental health intervention strategies, it is crucial to consider the unique circumstances of various regions and demographic groups. By doing so, a more comprehensive and effective plan can be formulated [21-22]. Furthermore, future research should continue to focus on monitoring the mental health status of this specific group, aiming to provide them with enhanced support and assistance.

This study shows that the scores of hostility, anxiety, depression, interpersonal sensitivity and obsessive-compulsive symptoms of vocational college students with FFD are higher than those of vocational college students with non- FFD, and the total score of SCL-90 is lower than that of vocational college students with non- FFD. The mental health status of higher vocational students facing FFD is generally positive. However, when compared to higher vocational students without FFD, although not statistically significant, students with FFD tend to have higher SCL-90 scores and factor scores. Therefore, their mental health cannot be ignored. In view of this, it is necessary to further improve the funding system. Firstly, national financial aid remains a fundamental approach for addressing the practical challenges faced by higher vocational students from financially disadvantaged families and improving their psychological well-being. Therefore, further enhancing the financial aid system is an essential task that cannot be overlooked [23-25]. Secondly, it is crucial to prioritize and strengthen work-study programs. Educational institutions should focus on enhancing the infrastructure for work-study initiatives by actively integrating school resources. Establishing a dedicated student work-study department, along with offices and specialized personnel responsible for evaluating, allocating, and distributing salaries for work-study positions, is imperative. Additionally, establishing clear criteria for employment and responsibilities within the school, while ensuring that departments employing part-time students provide adequate psychological counseling, ideological education, and effective management, will actively promote the mental health development of work-study students [26-27]. Thirdly, greater attention should be directed towards facilitation of employment for students from financially disadvantaged backgrounds. Collaborative efforts between higher education institutions and enterprises should be strengthened. Existing partnerships often involve collective learning without any form of remuneration. The researchers suggest fostering improved communication and cooperation with employing enterprises, establishing targeted internship positions with work-study elements, to help financially disadvantaged students in colleges and universities overcome their life challenges and enhance their mental health status [28-33].

Conclusion

In summary, students facing financial difficulties within their families exhibit lower levels of mental health compared to those facing non-family related financial difficulties. They are also more prone to experiencing psychological issues such as anxiety, depression, and interpersonal sensitivity. Additionally, notable disparities exist in the mental health of students with FFD when considering factors such as gender and grade. The main sources of psychological pressure for these students derive from economic strain, employment concerns, and familial stressors.

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