

Mental Health Status and Influencing Factors of College Students

Liangqun Yang, School of Education Science, Neijiang Normal University, China*

ABSTRACT

This study aims to address the mental health challenges brought about by the diversified development and rapid changes in society, with special attention to the psychological status of the student population. By using the SCL-90 mental health testing tool, collecting students' mental health data, and applying the fuzzy comprehensive evaluation method to analyze and evaluate students' mental health and its influencing factors in depth, the study aims to provide more effective countermeasures for students' mental health education as well as targeted teaching assistance for teachers. This study combines the BP neural network prediction model, which is committed to improving the accurate prediction of students' mental health status. The results of the study will help to assess the mental health level of students, detect and intervene in psychological crises in a timely manner, provide schools with more comprehensive mental health management and services, and promote the overall healthy growth of students.

KEYWORDS

College Students, Fuzzy Comprehensive Evaluation Model, Influencing Factors, Mental Health Problems

INTRODUCTION

In this era of rapid development of knowledge economy, the social demand for high-quality talents is growing, which makes the number of college students in China surge. With the progress of massification of higher education in China, the penetration rate of higher education has increased from 30% in 2012 to 57.8% in 2021, signifying that higher education is moving to a higher level of development (Coghill, 2021).

Both the social development needs and students' self-requirements have elevated students' requirements, which invariably increase the burden on college students. The pressure faced by college students is gradually increasing, and at the same time, the change in environment also puts forward new requirements for college students. College students are generally in the age of 18-23 years old. They enter college from high school, breaking the closed learning state of junior and senior high school and entering a colorful mini-society (Paton et al., 2022). Facing heavy academic pressure, college students often must cope with academic tasks such as exams and assignments and deal with practical work such as internships and part-time jobs, which may cause them to feel anxious, nervous, and stressed. In addition, social pressure is also an essential factor as college students need to adapt to

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*Corresponding Author

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new social environments, establish interpersonal relationships, and face expectations and evaluations from classmates, teachers, and family members, and this social pressure may also have an impact on their psychological conditions (Moran et al., 2022).

Meanwhile, employment pressure is also a common challenge faced by college students, who need to cope with issues such as future career planning and employment competition, while the uncertainty and pressure will also burden college students psychologically (Timimi, 2020). All aspects require college students to grow up quickly, which leads to many college students not adapting to college life quickly, and the pressure from all aspects comes, which can easily lead to mental health problems (Patabendige et al., 2020). This situation greatly challenges the state, society, and schools in mental health education (Clark et al., 2021).

In response to this situation, China has strengthened its efforts to provide psychological education to college students. For undergraduate and specialized students, mental health education has become a major part of university psychological education. However, China's current psychological education is still in its infancy. Compared with our country, psychological research in the West started early, developed relatively quickly, and is relatively high.

The SCL-90 scale is the most widely used measurement tool at present. It is designed to be more comprehensive, containing several mutually independent factors which can comprehensively understand the psychological condition of the respondents. The SCL-90 uses a simple and straightforward way, which is easy to be understood by the respondents (Daley et al., 2020). At this stage, most of the measurements of college students' mental health status in China are based on this scale.

In this paper, the SCL-90 scale is combined with the fuzzy comprehensive evaluation method to establish a model for predicting the mental health status of college students, which can more accurately predict the mental health status of students. The innovation of this method is to introduce advanced machine learning technology into the mental health field. By combining the complexity and flexibility of neural network models and the actual needs of the mental health field, this paper attempts to achieve more accurate and personalized mental health prediction. This interdisciplinary integration of research methods is expected to bring new ideas and methods for predictive analysis in the mental health field, and to provide more effective means for the maintenance and promotion of graduate students' mental health. Therefore, exploring the neural network-based predictive analysis of graduate students' mental health status is of great theoretical and practical significance.

RELATED WORKS AND THEORETICAL BASIS

Related Works

Bryant et al. (1986) used confirmatory factor analysis with national survey data to explore how educational status affects the criteria men and women use to evaluate their subjective well-being. College may sensitize men to mental health issues and may thereby broaden the realm of psychological criteria that they consider relevant for their self-evaluations (Bryant et al., 1986). Guo et al. (2010) described the health quotient of Chinese undergraduates to discern whether socio-demographic characteristics, academic achievements, and perceived health status significantly affect the health quotient of Chinese college students and to identify the predictable factors of health quotient in undergraduates. Holistic health of college students is essential and implies positive health behaviors and a focus on health promotion (Guo et al., 2010). A dual-factor mental health model includes measures of positive psychological well-being in addition to traditional indicators of psychopathology to comprehensively determine mental health status (Antaramian, 2015). The current study examined the utility of this model in understanding the psychological adjustment and educational functioning of college students. Furthermore, there is strong evidence that perceiving that close peers drink heavily is particularly risk-enhancing for anxious and depressed college students and offers implications for alcohol intervention targeted at these subgroups (Kenney et al., 2018). Rasmussen et al. (2020)

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