Social, Historical and Cultural Investigation of Learning Burnout of Contemporary College Students Based on Big Data Analysis and Its Countermeasures

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ABSTRACT

This paper uses big data analysis technology and learning burnout theory to investigate the learning burnout of 1000 students in a university and its influencing factors, and constructs a three-dimensional, ten-factor system for evaluation. The results show that learning burnout does exist, and the main factors affecting student learning burnout, from the perspective of socio-historical and cultural investigations, from strong to weak, are: personal and interpersonal factors, school factors, social factors and family factors.

Keywords: Big data analysis, Learning burnout, Influencing factors.

1. INTRODUCTION

With the continuous development of social economy, learning has become an essential skill for everyone. But for ordinary people, long-term study easily breeds boredom, which in turn leads to job burnout [1-3]. The existing research objects of burnout are mainly helping professional workers, such as medical staff, police, teachers, and service industry personnel, and very few studies have targeted students [4-6]. Burnout refers to negative psychological manifestations such as depression, fatigue, dissatisfaction, anxiety, indifference, confusion, weakness, low self-esteem, etc. Learning burnout of college students reflects the negative learning psychology of college students, which refers to the pressure or lack of learning, negative attitudes and behaviors, and interest in learning and boredom [7-9].

Learning burnout is an important indicator reflecting the negative learning psychology of college students. A number of studies have also shown that Chinese college students generally have insufficient learning motivation, unclear learning motivation, low learning interest, and poor learning attitude. At present, the phenomenon of college students' learning burnout has attracted widespread attention, but it is still in the exploratory stage. The cause and mechanism of action are still unclear [10]. Therefore, this paper relies on the analysis of big data technology, and through the investigation and research of the socio-historical and cultural problems of burnout, it aims to increase learning interest and improve learning efficiency.

2. LEARNING BURNOUT ANALYSIS

Through the research, the specific conclusions are as follows.

2.1 Grade Comparison of Learning Burnout

There are significant differences in total scores of burnout, and depression and misbehavior among college students of different grades. Freshman students have the lowest degree of learning burnout and are significantly different from other grades, while there is no significant difference between sophomores, juniors, and seniors. On the three factors of low sense of accomplishment, misbehavior and total burnout, sophomores and juniors are higher than freshmen, and the sense of accomplishment of seniors is better than that of freshmen, sophomores, and juniors. Sophomores

and juniors have moderate learning burnout, and juniors are more serious than sophomores in terms of low sense of accomplishment.

2.2 Gender Comparison of Learning Burnout

In terms of gender, boys are better than girls in terms of low sense of accomplishment, and boys are more depressed than girls. The average score of Mongolian female college students is significantly higher than that of Mongolian male college students. Among college students majoring in physical education, girls have lower scores in both theoretical and technical classes in the two dimensions of depression and misbehavior. There is no gender difference in the low-level sense of accomplishment in theoretical classes, and low sense of accomplishment in technical classes. In terms of dimensions, girls score higher than boys, and have lower sense of accomplishment than boys. There are significant gender differences in the total scores of learning burnout and emotional depression among college students. The main manifestation is that the degree of burnout of boys is higher than that of girls, and boys are more depressed. Boys are better than girls in terms of low sense of accomplishment and misbehavior. The total score of burnout, depression factor and misbehavior factor are all significantly higher for boys than girls.

2.3 Comparison of Subjects and Majors of Learning Burnout

In terms of disciplines, the total burnout level of liberal arts and science students is higher than that of medical and engineering students. There is a significant difference in grade between liberal arts college students and college students from rural areas, and there is a significant difference in grade between medical college students and college students from towns and counties. Although the general situation of learning burnout of college students is not very serious, it is not optimistic. Among them, misbehavior scores the highest, followed by depression and low sense of accomplishment. In the study of the difference between theoretical learning burnout and technical learning burnout, physical education college students scored higher in the theoretical course than in the technical course in three dimensions of depression, misbehavior and low sense of achievement. In the study of professional differences, the scores of traditional national sports

are higher than those of physical education, sports training, social sports, and bases in terms of the emotional depression dimension of theoretical courses. There is no professional difference in the dimension of misbehavior in theory class. In terms of the low dimension of achievement in theory class, the professional sense of accomplishment of social sports is higher than that of sports training. In the low mood dimension of technical courses, the score of physical education major is lower than the four majors of sports training, social sports, base and traditional national sports. In the dimension of misbehavior in technical courses, the score of physical education major is lower than that of base and traditional national sports majors, but there is no difference in the low dimension of achievement in technical courses. There are significant differences in total burnout scores and low sense of accomplishment among college students of different major types. The degree of burnout is the highest in science and engineering, and there are significant differences between liberal arts, art, and sports. The total scores of depressed mood factor, low sense of accomplishment factor and burnout of science college students are significantly higher than those of liberal arts.

2.4 Comparison of Types of Colleges with Learning Burnout

In terms of types of colleges, normal colleges have the highest level of learning burnout. There are significant differences in the total scores of learning burnout and low sense of accomplishment between normal and non-teacher college students. The degree of learning burnout of normal students is higher than that of non-teacher students, while students from key universities and non-key universities have a total score of learning burnout. There is no significant difference in the scores of each dimension.

2.5 Comparison of Academic Performance of Learning Burnout

There are extremely significant differences in the total scores of learning burnout and all dimensions of college students with different academic performance. The worse the performance, the more serious the learning burnout.

2.6 Other Research Related to Learning Burnout

Internet addicts scored higher on the three factors of depression, misbehavior, and low sense of accomplishment than non-Internet addicts; Internet addicted college students are more likely to show burnout, depression, and depression in the learning process. They are more prone to learn-weary behaviors such as skipping classes, being late, and not attending classes, and will experience a lower sense of accomplishment than other students in the learning process.

There is a significant correlation between college students' stress experience and learning burnout. Emotional experience and psychological experience constitute a very significant regression effect on learning burnout, and physiological experience constitutes a significant regression effect on learning burnout. There is a very significant negative correlation between college students' social support and learning burnout. The buffering effect of social support between the stress experience and learning burnout of college students is reflected in the emotional experience, psychological experience and emotional exhaustion.

The research on the relationship between coping style and learning burnout shows that the burnout scores of college students who adopt the controlled coping style are lower than other coping styles.

Personality change sting has a significant predictive effect on learning burnout. There is a significant correlation between stress, coping styles, social support and learning burnout; coping styles, academic stress and social support can significantly predict learning burnout; stress perception has some mediation between coping styles, learning burnout, social support and learning burnout effect. College students' learning burnout is significantly negatively correlated with professional commitment. Learning burnout has a completely mediating effect between college students' Internet addiction and professional commitment. College students' learning strategies and learning burnout and their ethnic differences in various dimensions are extremely significant.

3. RESULTS AND ANALYSIS

Through the investigation and data analysis, the following conclusions are drawn.

3.1 Respondents

Using a random sampling method, it is expected to survey about 1,000 students in a college. From February 2019 to May 2012, a total of 1,000 questionnaires were randomly distributed, and 972 questionnaires were returned. The response rate of questionnaires was 97.2%, of which 963 were valid questionnaires. The questionnaire efficiency is 96.3%.

3.2 Analysis of the Status Quo of Student Burnout in a College

Taking a college as an example, the following data is obtained.

3.2.1 Analysis of the Overall Characteristics of Student Burnout in a College

Because the questionnaire score in this study is scored at five levels (from 1-5), the median value of 3 is divided into three. It can be seen from the results that the overall score of learning burnout is between (106-175 points), accounting for 24.61% of the total sample. The score is equal to 105 points, accounting for 33.65% of the total sample. Therefore, it can be considered that college students in a certain college do exist in learning burnout, and we should pay enough attention to it.

The graph shows that the burnout tendency of boys in a college is higher than that of girls; the learning burnout of college students in a college shows an upward trend from freshman to junior year, reaching a peak in junior year, and declining by senior year.

For the student evaluation object $u_i', u_i'', (i', i'' \in N, i' \neq i'')$, and call $s(u_i' \succ u_i'')$ the degree of superiority of u_i' versus u_i'', as shown in formula (1):

$$s(u_i' \succ u_i'') = p(f(u_i') > f(u_i'')) + 0.5p(f(u_i') = f(u_i'')) \quad (1)$$

3.2.2 An Analysis of Gender Differences in Learning Burnout Among College Students

In terms of the total score of learning burnout and all dimensions of burnout, the burnout tendency of boys is higher than that of girls.

3.2.3 An Analysis of the Difference in Grades of Learning Burnout Among College Students in a Certain College

It can be seen from "Figure 1" that there are significant grade differences in the two dimensions of total score, low mood, and low sense of achievement among college students in a certain college, and there is no significant difference in the dimension of behavior avoidance.

"Figure 2" shows that the learning burnout of college students in a certain college has an inverted "U" shape in the grade distribution, that is, the learning burnout of college students in the three grades of freshman, sophomore, and junior shows an upward trend, and the third year reaches its peak. The senior year showed a downward trend.
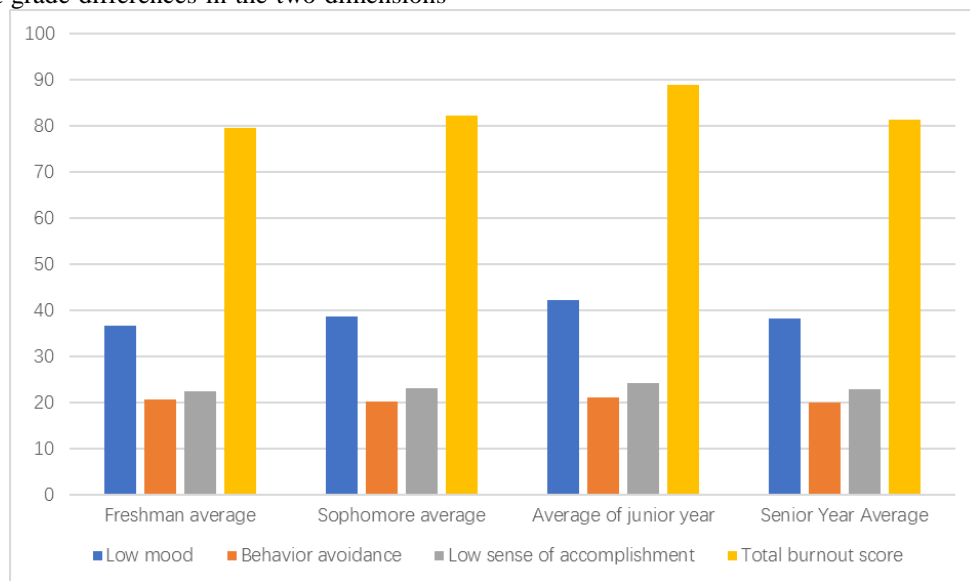

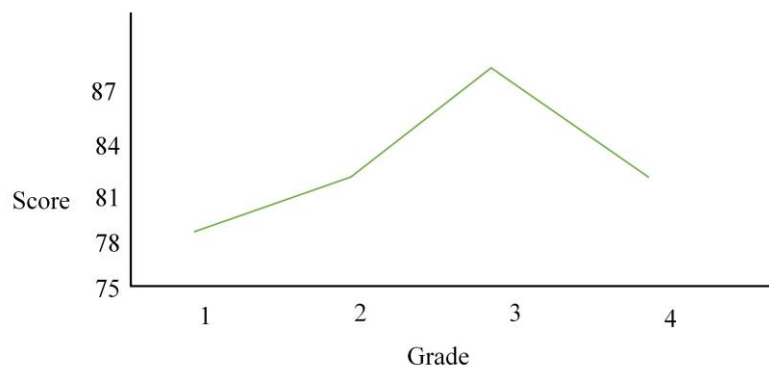Figure 1 The grade difference of learning burnout among college students in a certain college.

Figure 2 The distribution of the scores of college students' learning burnout in each grade.

3.2.4 An Analysis of the Difference in Academic Burnout Among College Students in a Certain College

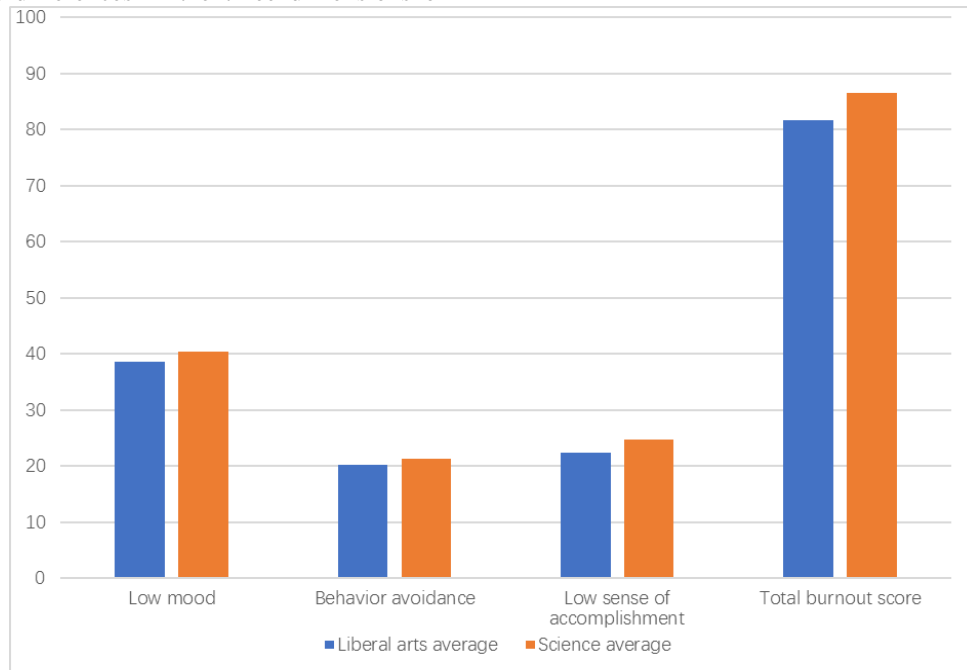From "Figure 3", it can be seen that there are significant differences in the three dimensions of college students' learning burnout, low mood, low sense of accomplishment, and behavior avoidance. It shows that the degree of burnout of science students is higher than that of liberal arts students.

Figure 3 Disciplinary differences in learning burnout among college students.

3.2.5 Analysis of Influencing Factors of Student Burnout in a College

According to the hypothesis of this study, college students' learning burnout is affected by internal and external factors. This article divides the factors affecting college students' learning burnout into ten factors. From the perspective of social history and culture, they are self-evaluation factors, social factors, professional factors, and teacher care. Factors, family factors, test factors, peer relationship factors, classmate influence factors, school environment factors, and teaching factors. The ten factors according to internal and external factors, which can be divided into internal factors and external factors. Specifically, the four factors of self-evaluation, teacher care, peer relationship and classmate influence are classified as individual and interpersonal factors; professional factors, teaching factors, examination factors, and school environment are classified as school factors; family factors and social factors are grouped into one category.

Through big data analysis, from the score results, the average score for personal and interpersonal factors is 3.75, the average score for school factors is 3.07, the average score for social factors is 2.49, and the average score for family factors is 2.17.

It can be seen from the results that students' personal and interpersonal factors have the strongest influence on learning burnout, followed by school factors, social factors and family factors.

4. SUGGESTIONS

According to the research conclusions, this study puts forward the following targeted guidance strategies.

4.1 Influence of Personal and Interpersonal Factors

Research shows that helping students treat learning with positive attitudes and behaviors and eliminate learning burnout can be done from both the school and the individual students. As a school, college education should help students objectively

understand themselves, establish learning confidence, and build well. The social support system of the school, and effective guidance to students in the learning process, to reduce students' negative self-evaluation; in addition, as an individual student, appropriate measures should also be taken, such as consciously observing their own learning environment and reflecting on their own learning mistakes, understanding of family members, classmates, and teachers in your learning process, sharing your learning experience with them, etc. If you find that you have learning burnout, you should face it bravely, correctly recognize the various symptoms of your burnout, and find out the source of your own learning pressure or the reason for losing interest in learning, actively seek help and try to solve it.

4.2 School Factors

The impact of professional factors in school factors on learning burnout can be avoided from the following aspects: (1) Scientific guidance on major selection (2) Scientific and rationalized — low-level students. They analyze their own characteristics and conduct appropriate guidance, find their points of interest in learning from the perspective of their own career plans, and introduce the development trends and prospects of their ideal careers to enable students to clarify the knowledge, skills, and careers that they should have for a certain type of career. Doing so can help students focus more on their studies.

4.3 Social Factors

Today, when university education is developing from elite education to popularization, what kind of talents the school should cultivate, what the society's assessment standards for talents are, and how to solve the problem of employment pressure caused by expansion of college students cannot be ignored. If these problems are not resolved, college students will have a negative learning psychology and cause learning burnout. Society should be committed to creating a good environment. It is necessary to gradually change some of the existing unreasonable talent selection mechanisms, and the employment system. Break the old employment concepts, such as local protectionism, imperfect household registration management, academic qualifications, high consumption of talents, etc., and create a scientific talent selection mechanism and a reasonable employment system. Strengthen the vocational training system for college students

after employment, combine the development needs of the work and the actual situation of the college students, provide the employed college students with the opportunity and environment to continue learning and further study, and gradually cultivate their habit of end-to-end learning, so as to promote the whole society form a good environment for lifelong learning.

4.4 Family Factors

The influence of family factors on college students' learning cannot be ignored. Parents of students must be guided to realize that students' world outlook, outlook on life, and values are an important period during their college years. Parents of students should communicate with their children, discuss issues, and communicate more with the school. In this way, a better learning environment can be created for students. In addition, parents should also have reasonable expectations and requirements based on their children's different personal characteristics, and avoid inappropriate expectations that put heavy learning pressure on their children.

5. CONCLUSION

Relying on big data analysis technology, this paper analyzes ten factors through the three dimensions of college students' learning burnout, low mood, behavior avoidance, and low sense of accomplishment. From the perspective of social history and culture, the influencing factors of student learning burnout are ranked in order from strong to weak. Some suggestions are put forward from personal and interpersonal factors, school factors, social factors and family factors.

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