

## The Impact of College Students' Mental Health on Learning Motivation: The Mediating Role of Learning Beliefs

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Fund Project: Achievements of the Ideological and Political Education Research Association of Guangdong Province Colleges and Universities (2015SZY061); Guangdong Ocean University's 2021 student work research project (Gdoux202119); Guangdong Ocean University's 2021 school-level education and teaching reform project.

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**Abstract :** This study examines the relationship between college students' learning motivation, learning beliefs and mental health. Methods: Using the Learning Motivation Scale, Learning Belief Scale, and SCL-90 Scale to conduct a questionnaire survey on 810 college students, and combine them to test the mediation effect. Results: ①Mental health level is significantly negatively correlated with learning beliefs, learning motivation is significantly positively correlated with learning beliefs, and mental health levels are not significantly correlated with learning motivation. ②Learning beliefs play an intermediary role between the level of mental health and learning motivation. Conclusion: The level of mental health can indirectly affect learning motivation through learning beliefs.

**Keywords :** College Students; Learning Motivation; Mental Health Level; Learning Beliefs

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With the development of economy and social changes, especially under the tide of the information age, society has higher and higher requirements for the quality of college students. In recent years, the hardware and software facilities of Chinese universities have also been greatly improved, and university quality education has also made considerable progress. However, the university students still have problems such as low learning motivation and low level of mental health. How to cultivate high-quality talents with both ability and political integrity is of great significance to our country's university education.

There is an important relationship between learning motivation and learning ability, and learning motivation can promote students' learning efficiency. Motivation theory believes that motivation is the psychological internal state promoted by inner needs, which can prompt individual activities to carry out purposeful activities under the guidance of this need. The existing research believes that the learning process of college students reflects the characteristics of their own learning motivation, academic performance, their own conditions, external environment and other factors will cause differences in students' learning motivation, and the constituent factors of learning motivation are complex and diverse. In addition, academic performance is affected by learning motivation. Learning motivation can promote the determination of learning goals and the execution of learning willpower. Students with strong learning motivation can have high learning enthusiasm, and students with poor learning motivation are often prone to study weariness. Learning belief refers to the individual student's understanding and thinking about the concepts and viewpoints of people, nature, society and knowledge. It is a higher-level learning cognition, and this belief can promote the continuous learning and practice process of the individual. The learning beliefs of college students are not only affected by the individual environment,

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doi: 10.18686/ah.e.v5i9.3940

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but also by individual subjective factors. It is a learning philosophy formed by the interaction of society, culture, and education. Studies have found that learning beliefs have an important relationship with the learning behavior and learning ability of college students. College students with strong learning beliefs are more proactive in learning. College students' learning beliefs also have a strong role in promoting the learning process and learning goals, indirectly promoting the improvement of academic performance. In addition, the study and life of college students are also affected by their own level of mental health and integrity of personality. College education is not only knowledge education, but also requires the cultivation of psychological quality and other psychological education. Existing studies have also found that students' mental health level and individual learning behaviors have a mutual influence. When the level of mental health is high, it can promote learning very well, while poor mental health level directly reduces learning efficiency and also affects learning. Results and other effects.

At present, domestic research on mental health level, learning beliefs and learning motivation is limited. Therefore, this research will explore the relationship and internal mechanism between them, in order to provide reference and guidance for the cultivation of college students' learning ability and psychological education.

## 1. Research object

### 1.1 Object

This study uses the random overall sampling method to randomly select college students by grade from a college in western Guangdong. 810 legal questionnaires were issued and 739 valid questionnaires were recovered, with an effective rate of 91.2%. In the valid questionnaire, there were 279 girls and 460 boys, with an average age of  $(20.14 \pm 1.50)$  years old.

### 1.2 Research tools

Learning Motivation Scale: Using the Learning Motivation Scale compiled by Chi Liping and others, there are 30 items with 4 grades. The higher the score, the higher the motivation level, and the Cronbach's  $\alpha$  coefficient of the scale is 0.86. SCL-90 Scale: There are 90 items in this scale. The higher the score, the more serious the mental health status. The scale includes 10 factors such as somatization and obsessive-compulsive symptoms, and the reliability and validity of each factor are very good. University Student Learning Belief Questionnaire: There are 30 questions in the questionnaire compiled by Lu Lijun. The questionnaire uses six levels of scoring. The higher the score, the stronger the learning belief. The total Cronbach's  $\alpha$  coefficient of the scale is 0.91.

### 1.3 Statistical tools

SPSS24.0 was used to carry out statistical analysis on the data. The statistical methods mainly include regression analysis and correlation analysis. The deviation-corrected percentile Bootstrap method was used to test the mediation effect.

## 2. Results

### 2.1 The correlation between mental health, learning beliefs and learning motivation

The Pearson correlation analysis method was used to analyze the three variables of learning motivation, learning beliefs and mental health. The results (Table 1) showed that learning motivation and learning beliefs were significantly positively correlated, and learning beliefs and mental health levels were significantly negatively correlated. There is no significant correlation between mental health level and learning motivation.

Table 1. Descriptive statistics and correlation analysis of main variables(N= 739)

	1	2	3
1 Learning motivation	1	0.45* *	-0.06
2 Learning beliefs	0.45* *	1	-0.17* *
3 Mental health level	-0.06	-0.17* *	1

	1	2	3
<b>M</b>	84.86	120.82	133.90
<b>SD</b>	10.45	16.48	47.18

Note: \*  $p < 0.05$ ; \* \*  $p < 0.01$ ; \* \* \*  $p < 0.001$  Same below.

## 2.2 The mediating effect of learning beliefs between mental health and learning motivation

In this study, the mediation effect proposed by Fang Jie etc., was used to test the mediation effect. The Spss macro compiled by Hayes was used to perform the mediation effect test. The deviation-corrected percentile Bootstrap method was used to draw 5000 samples to estimate 95% of the mediation effect. Confidence interval.

Table 2. Regression analysis of each variable in the mediation model

Outcome variable	Predictor variable	R	R2	F	$\beta$	t	95% CI
Learning beliefs		0.15	0.02	19.07* * *			
	Mental health level				-0.05	-4.37* * *	[-0.075,-0.029]
Learning motivation		0.47	0.22	119.99* * *			
	Learning beliefs				0.30	15.40* * *	[0.261,0.337]
	Mental health level				0.004	0.59	[-0.009,0.017]

Regression analysis shows (Table 2): Mental health has a significant negative predictive effect on learning beliefs ( $\beta = 0.052$ ,  $p < 0.001$ ); After both learning beliefs and mental health levels are included in the regression equation, learning beliefs have a positive effect on learning motivation. The direct effect is significant ( $\beta = 0.30$ ,  $p < 0.001$ ), and the level of mental health has no significant effect on learning motivation ( $\beta = 0.004$ ,  $p > 0.05$ ). Then the Bootstrap method was used to test the mediating effect, and the results showed that the mediating effect of learning belief was significant, and the 95% confidence interval did not include 0 ( $-0.024$ ,  $-0.007$ ). In addition, after controlling the learning belief of the mediating variable, the mental health level has no significant effect on learning motivation. The 95% confidence interval includes 0 ( $-0.009$ ,  $0.017$ ), which proves that learning belief plays a completely mediating effect between the mental health level and the learning motivation.

## 3. Discussion

This research shows that there is a close relationship between learning motivation, learning beliefs, and mental health. Learning beliefs and learning motivation are positively correlated. Biggs' 3P theory believes that students' learning characteristics will affect the learning process, and the quality of the learning process will directly affect the results of learning. At the same time, the characteristics of the students themselves will also directly affect the academic achievement, the learning initiative and motivation intensity of the learning belief students, and the motivation is an important subjective factor of individual learning. This research is also consistent with existing research. Both learning beliefs and learning motivation are the driving factors of the individual's own learning. Their interaction affects learning behavior. The stronger the learning belief, the higher the learning motivation. Good learning motivation and learning beliefs promote each other. Learning behavior and learning ability. In addition, learning belief and mental health level are significantly negatively correlated, indicating that mental health level affects individual learning behavior and learning process. Learning belief is an important factor in individual learning motivation, and poor individual psychological factors directly affect individual learning status. There is no significant correlation between the level of mental health and learning motivation. Some studies believe that learning motivation has a direct relationship with the level of depression and anxiety of

psychological factors, thereby affecting academic achievement. However, this study did not find a direct relationship between the level of mental health and learning motivation. The relationship, its deep internal mechanism still needs further research.

This study also explored the mediating mechanism of learning beliefs between mental health and learning motivation, and the research found that learning motivation plays a mediating effect. Studies have shown that learning beliefs, as an important aspect of an individual's own learning quality, have positive significance for mental health quality and learning motivation. According to the theory of self-efficacy, it is believed that individual's own subjective factors such as sense of efficacy, sense of expectation, self-control, willpower, etc., have a positive influence on behavior. At the same time, it is also affected by the environment, and learning beliefs, psychological qualities, and learning motivation are the individual's own factors. The interaction of these factors can promote learning behavior and learning effects. "Yeks-Dodson Law" believes that moderate anxiety and stress can promote the improvement of learning efficiency. Learning pressure is also one of the important aspects of mental health. Good psychological motivation and learning beliefs can maximize the learning effect. Studies have found that the lack of learning motivation is mainly the individual's negative expectations of their own beliefs. It is affected by a variety of belief factors. The lack of learning beliefs can easily lead to the lack of learning motivation, which in turn affects the individual's mental health. This study initially explores the mechanism of learning beliefs between the level of mental health and learning motivation, which helps college education to attach importance to the cultivation of subjective factors such as students' learning psychological factors and learning enthusiasm. Research is important for cultivating college students' learning ability theoretical significance and practical guidance, and hope to enhance objective experiments or longitudinal research in future related research to explore the causal relationship between learning motivation and other influencing factors.

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