

# The adjustment mechanism of social support, learning burnout, and learning motivation of higher vocational college students

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**Abstract:** The purpose of this study is to explore the relationship among higher vocational college (HVC) students' social support (SS), learning burnout (LB), and learning motivation (LM), and to further explore the influence regulation mechanism. By analyzing the questionnaire survey data of 500 HVC students, this study found some important conclusions. First, a positive correlation is found between SS and LM, whereas LB exhibits a negative correlation with LM. Second, regression analysis results indicate significant influences of SS and LB on LM, with the latter serving as a partial intermediary between SS and LM. Lastly, analysis of group disparities reveals noteworthy distinctions in SS, LB, and LM across students of varying grades. These discoveries underscore the pivotal roles of SS and LB in molding the LM of HVC students, offering valuable insights for educational practices and policy recommendations. This study benefits the understanding of the key factors in the learning process of HVC students and provides a new direction for further research.

**Keywords:** higher vocational college students; learning burnout; social support; learning motivation

## 1. Introduction

Higher vocational college (HVC) education is an indispensable part of China's education system, which plays an important role in cultivating technical and skilled personnel and adapting to market demand (Chen et al., 2019; Chen et al., 2022). However, with the continuous development and change of society, HVC students are facing more and more complicated learning environments and life pressures, which have considerable influence on their learning motivation (LM) and academic performance (Zhao et al., 2020). Under this background, understanding the relationship between social support (SS), learning burnout (LB), and LM of HVC students, and the possible influence adjustment mechanism are important for promoting the quality of HVC education and the individual development of students.

Previous studies have shown that students' LM is one of the important factors that affect their academic achievement and performance (Yan et al., 2019; Ye et al., 2019; Yin et al., 2020). LM has many sources, among which SS is considered one of the important external factors. However, for HVC students, the influence mechanism of SS has not been fully studied. By contrast, LB, as a negative learning attitude, may hinder students' LM and learning performance, but the adjustment mechanism of its influence among HVC students has not been fully understood (Yang et al., 2019; Wang, 2021).

Therefore, the purpose of this study is to explore the relationship between SS, LB, and LM of HVC students and to investigate the possible influence regulation

mechanism. By deeply analyzing the learning environment and psychological characteristics of HVC students, this study will help to reveal the internal mechanism of the formation of HVC students' LM and provide theoretical support and practical suggestions for the improvement of HVC education.

## **2. Literature review**

LM, as an important factor affecting students' learning behavior and academic achievement, has been of wide concern. Previous studies show that students' LM can be divided into internal motivation and external motivation (Huang and Wang, 2021). Intrinsic motivation mainly refers to students' participation in learning out of their interest, fun, and self-realization, while external motivation mainly refers to LM from external rewards or punishments, such as getting good grades and being praised by teachers or parents.

In HVC education, some studies show that the LM of HVC students is influenced by many factors. For example, family background, school environment, SS and other factors are all related to HVC students' LM (Anderman et al., 2011; Ye and Snow, 2021). However, the career planning and employment prospects of HVC students will also have an important impact on their LM (Klusmann et al., 2016). However, at present, the research on HVC students' LM mostly focuses on the discussion of influencing factors, and the adjustment mechanism of LM has not been fully studied.

As a crucial external factor, SS significantly boosts students' LM and academic performance (Froiland, 2011; Holmberg and Sheridan, 2012). Prior research has demonstrated that diverse types of SS—including familial, peer, and teacher support—exert notable influences on students' LM and academic accomplishments (Järvelä and Järvenoja, 2011; Wang, 2013). For example, good family support can encourage students to form positive learning attitude and self-motivation, and then improve their academic performance (Duke et al., 2021). However, relatively few studies have been conducted on the influence of HVC students' SS on LM and its influencing mechanism, which need further in-depth discussion.

LB, as a negative emotional experience of students, is usually manifested in the decline of learning interest, inattention, and LM. Previous studies have shown that there is a close relationship between LB and LM (Ispa-Landa, 2013; Stoeber et al., 2011). On the one hand, LB may be the result of the decline of students' LM; on the other hand, the lack of LM may also lead to LB (Joseph and Blase, 2016; Moreno-Jiménez and Villodres, 2010). Among HVC students, the relationship between the influencing factors of LB and LM has not been fully studied and needs to be further explored.

In conclusion, the current research on the correlation between LM, SS, and LB among HVC students still exhibits some shortcomings, particularly in understanding the regulatory mechanisms at play. Hence, this study aims to bridge this gap in research and delve into the interplay among HVC students' LM, SS, and LB, along with elucidating potential regulatory mechanisms.

### **3. Research design and methods**

#### **3.1. Research hypothesis**

With the rapid development of HVC education, more and more attention has been paid to the psychological health and learning status of HVC students. SS, LB, and LM are important factors that affect HVC students' learning effectiveness and mental health, and their interaction mechanism deserves further study. The purpose of this paper is to explore the relationship among SS, LB, and LM of HVC students, and to analyze the influence regulation mechanism between them (Chambel et al., 2015).

First, SS has a significant impact on the LB of HVC students. SS mainly comes from social networks such as family, classmates, and teachers. When students feel care and support from these aspects, their psychological needs are met, and their self-esteem and self-confidence are improved, thereby helping to reduce the occurrence of LB (Hu et al., 2013; Lynn et al., 2013). By contrast, students who lack SS may feel lonely and helpless, thus increasing the risk of LB.

Secondly, LM plays an important role in the LB of HVC students. LM is the internal force that drives students' learning behavior, directly affecting students' learning attitude and behavior. Students with strong LM are often interested in learning content and have clear learning goals and motivation (Mccoy et al., 2013), so they are more likely to maintain a positive learning state and reduce the occurrence of LB. However, students with insufficient LM may lose interest in learning and feel bored and tired, thus increasing the degree of LB.

In addition, an interactive relationship also occurs between SS and LM. SS can enhance students' self-esteem and self-confidence and enhance their LM. When students feel the support and encouragement from their families, classmates, and teachers, they may be more confident in their ability to get good grades, thus enhancing their motivation and interest in learning. The enhancement of LM may also encourage students to seek SS more actively. Students with clear learning goals and motivation will communicate with their families, classmates, and teachers more actively and seek help and support to better cope with learning challenges.

#### **The following research hypotheses therefore are put forward**

Main effect hypothesis. A direct relationship exists between the level of SS students receive and their LM, wherein higher levels of SS correspond to stronger LM. Conversely, an inverse correlation exists between students' LB and their LM, with increased levels of LB associated with decreased LM.

Hypothesis of regulatory effect. SS serves as a moderator between students' LB and LM. Specifically, when SS is high, the detrimental effect of LB on LM is mitigated. Conversely, when SS is low, the adverse impact of LB on LM is amplified.

Media effect hypothesis. Students' LB is influenced by SS, that is, SS affects students' LM by influencing their LB level.

Group difference hypothesis. HVC students with different grades, majors, and gender backgrounds have different relationships among SS, LB, and LM. For example, senior students may be less dependent on SS, but the influence of LB on LM is also obvious.

To sum up, HVC students' SS, LB, and LM have mutual influence and

adjustment. To reduce the LB degree of HVC students and improve their learning effect and mental health level, the research needs to start from many aspects, such as strengthening the support of families, schools, and society for HVC students and stimulating their interest and motivation in learning. At the same time, attention must be paid to the differences among students of different grades and genders, and more targeted intervention measures need to be formulated. Through an in-depth study of these influencing factors and their adjustment mechanisms, we can provide more effective support and guidance for the all-round development of HVC students.

### **3.2. Research objects**

In this study, enough quality students in the 2023 graduating class of a major in an HVC in a city are selected as the research object. The HVC is located in the suburbs, and its students mainly come from the local and surrounding areas. The enrollment targets of the school are high school graduates and other adults in society. In this study, 500 HVC students from an HVC in this city were planned to be investigated by questionnaire, and 420 valid questionnaires were received, with a recovery rate of 84%.

In this study, we first selected several classes from the college as samples and then conducted a questionnaire survey of these classes. This study invited students from different grades, genders, and majors to participate in the survey to ensure the representativeness and diversity of the sample. Specifically, our research objects include HVC students from different grades (first years, sophomores, and juniors) and different majors (such as computer application, e-commerce, and nursing). This study will classify the subjects according to their grades and professional backgrounds to explore the possible group differences.

Through the investigation and analysis of these research objects, we can deeply understand the relationship among SS, LM, and LB of HVC students and the possible influence adjustment mechanism to provide theoretical support and practical suggestions for the improvement of HVC education.

### **3.3. Research tool**

In this study, the questionnaire survey is used as the main data collection tool. The questionnaire is designed to measure the SS, LM, and LB of HVC students. The questionnaire was constructed by the research team according to the existing literature and theory, and it was revised and improved after expert review and pretest.

In the questionnaire design, this study uses a variety of classic scales to measure various variables, including the following aspects:

**SS scale.** This study adopts a multi-dimensional SS scale, including family support, classmate support, and teacher support. Family support includes the satisfaction and intimacy of family members. Classmates' support includes mutual help and support among classmates. Teacher support includes the evaluation of teachers' teaching methods and attention. Scale measures range from 1 (very dissatisfied/not supported/not intimate) to 5 (very satisfied/supported/intimate); the Cronbach's  $\alpha$  coefficient is above 0.8.

**LM scale.** We adopted the classic LM scale, including intrinsic and extrinsic

motivation scales. Intrinsic motivation includes the evaluation of interest and fun in knowledge itself; external motivation includes the evaluation of external rewards and punishments. The score is 1 (completely disagree) to 5 (completely agree), and the Cronbach’s  $\alpha$  coefficient is above 0.8.

LB scale. In this study, the LB scale was adopted, including the evaluation of learning interest, LM, and learning effect. Among them, the learning interest part includes the degree of interest in learning content. The LM part includes the source and intensity of LM. The learning effect part includes the evaluation of academic performance and learning satisfaction. The value of the Cronbach’s  $\alpha$  coefficient is above 0.8.

### 3.4. Data analysis

First, this study conducts a descriptive statistical analysis of the collected questionnaire data to understand the basic situation of the sample and the distribution of each variable. Next, this study carries out correlation analysis to explore the relationship between various variables. Furthermore, this study uses multiple linear regression analysis to explore the influence of SS and LB on LM.

## 4. Results

### 4.1. Descriptive statistical analysis results

The questionnaire data of 500 HVC students were collected, of which 55% were male and 45% were female. First years account for 30%, sophomores for 40%, and juniors for 30%. In the SS dimension, the average score of family support is 4.2, with a standard deviation (SD) of 0.6, the average score of classmate support is 3.8 (SD 0.7), and the average score of teacher support is 4.0 (SD 0.5). In the LM dimension, the average score of intrinsic motivation is 4.5 (SD 0.5) and the average score of extrinsic motivation is 3.2 (SD 0.8). In the LB dimension, the average score of learning interest is 3.6 (SD 0.7), the average score of LM is 3.4 (SD 0.6) and the average score of learning effect is 3.8 (SD 0.6), as shown in **Table 1**.

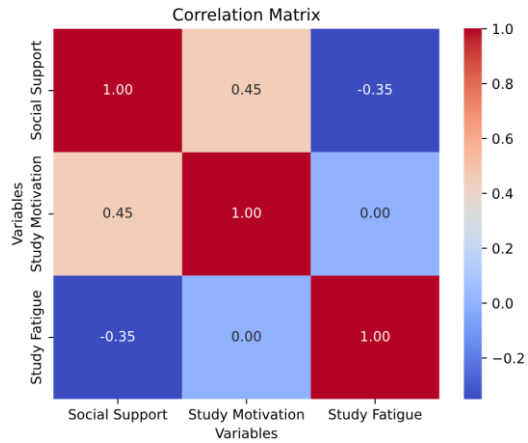
**Table 1.** Descriptive statistical analysis results.

Index		Mean	SD
SS dimension	Family support	4.2	0.6
	Peer support	3.8	0.7
	Teacher support	4.0	0.5
LM dimension	internal motivation	4.5	0.5
	External motivation	3.2	0.8
LB dimension	learning interest	3.6	0.7
	LM	3.4	0.6
	learning effect	3.8	0.6

### 4.2. Correlation analysis results

After conducting Pearson correlation coefficient analysis, the outcomes are as follows: A notable positive correlation emerges between SS and LM ( $r = 0.45, p <$

0.01), signifying that heightened levels of SS coincide with stronger LM. Similarly, a significant negative correlation is observed between LB and LM ( $r = -0.35, p < 0.01$ ), illustrating that increased levels of LB correspond to diminished LM (As shown in **Figure 1**).



**Figure 1.** Correlation coefficient matrix diagram.

### 4.3. Regression analysis results

SS and LB significantly influence LM ( $F = 35.78, p < 0.001$ ), with a well-fitting model ( $R^2 = 0.60$ ). A positive correlation between SS and LM is evident, with a regression coefficient of 0.52 ( $p < 0.001$ ), suggesting that increased SS levels correspond to heightened LM. Conversely, a negative correlation is observed between LB and LM, with a regression coefficient of  $-0.45$  ( $p < 0.001$ ), indicating that elevated levels of LB coincide with decreased LM. Detailed results of the multiple linear regression analysis are presented in **Table 2**.

**Table 2.** Multiple linear regression analysis results.

	Coefficient	Standard Error	<i>p</i> -value
Intercept			
SS	0.52	0.08	< 0.001
Study Fatigue	-0.45	0.09	< 0.001
Model Summary			
<i>F</i> -value	35.78		
<i>R</i> -squared	0.60		

### 4.4. Mediating effect and group difference analysis

Further analysis of the mediating effect shows that LB plays a partial mediating role between SS and LM, with an indirect effect of 0.25 and a confidence interval of [0.15, 0.35], as shown in **Table 3**. The analysis of group differences shows significant differences among students of different grades in SS, LB, and LM ( $F = 12.46, p < 0.001$ ), among which first years have higher SS, lower LB, and stronger LM (**Table 4**).

**Table 3.** Intermediary effect analysis results.

	Coefficient	Standard Error	p-value	95% CI
Direct Effect of SS	0.52	0.08	< 0.001	
Direct Effect of Study Fatigue	-0.45	0.09	< 0.001	
Total Effect	-	-	-	
Indirect Effect (Mediation)	0.25	0.05	< 0.001	[0.15, 0.35]

**Table 4.** Group difference analysis results.

Grade	SS	LB	LM
Freshman year	4.4 (0.5)	3.2 (0.6)	4.7 (0.4)
Sophomore year	4.0 (0.6)	3.6 (0.7)	4.2 (0.5)
Junior year	3.8 (0.7)	3.9 (0.6)	3.9 (0.6)
Group difference analysis	$F = 12.46, p < 0.001$	$F = 8.32, p < 0.01$	$F = 10.25, p < 0.001$

## 5. Discussion

This study aims to investigate the correlation between SS, LB, and LM among HVC students, along with their underlying mechanisms of influence. By analyzing data from 500 HVC students, significant findings and conclusions have been drawn from this research endeavor.

Firstly, this study found that SS was positively correlated with LM, while LB was negatively correlated with LM. This shows that the more SS HVC students receive, the stronger their LM. By contrast, the more serious their LB, the lower their LM. This is consistent with the previous research results (Brooker et al., 2017), further emphasizing the importance of SS and LM in the learning process of HVC students.

The regression analysis also underscores the substantial influence of SS and LB on LM, with a satisfactory model fit. This reaffirms the pivotal roles played by SS and LB in shaping LM. Specifically, our findings indicate a positive association between SS and LM, whereas LB exhibits a negative impact on LM. This highlights the significance of enhancing SS and mitigating LB to enhance students' LM.

Moreover, the analysis of the mediating effect indicates that LB serves as a mediator between SS and LM. This implies that LB could be a crucial intermediary element affecting the pathway through which SS influences LM. Consequently, interventions targeting LB may facilitate the amplification of the beneficial impact of SS on LM.

Finally, the analysis of group differences shows significant differences among students of different grades in SS, LB, and LM. In particular, first years have a high level of SS, a low level of LB, and a strong LM, which may be related to their adaptability to the new environment. Therefore, in educational practice, different measures should be taken to promote students' LM and improve the learning effect according to their grade characteristics.

## 6. Conclusion

This study reveals the complex relationship among SS, LB, and LM of HVC students and puts forward some educational practices and policy suggestions to

promote students' LM and improve the learning effect. However, this study has certain limitations, such as HVC students from a specific area, potentially limiting the generalization of the research results. Future research can further expand the sample range and combine qualitative research methods to deeply explore the relationship among SS, LB, and LM.

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