

Students' family support, teachers' behavior, and learning motivation in Chinese higher vocational colleges

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Abstract

This paper identified the relationship among students' family support, teachers behavior and learning motivation. In this study, a descriptive research method was adopted to issue effective and reliable questionnaires to students in three Chinese higher vocational colleges, namely Jiangmen Polytechnic, Hunan Vocational College of Technology, and Guangdong Nanfang Institute of Technology. A total of 498 valid questionnaires were collected as the main data sources. Among the respondents, female students outnumbered male students, with freshman year students accounting for 67.3 percent, and more than 70 percent of students from rural areas and towns, with similar numbers of students from four different majors. In the selected research area, there is a significant correlation between students' family support, teachers behavior and learning motivation. The higher the degree of students' family support, the better the evaluation of teachers behavior and the stronger the students' learning motivation. There are significant differences in family support among different grades and majors; In terms of teachers behavior, there are significant differences in sex, grade level and place of origin of students. In terms of learning motivation, only sex has a significant difference, and male have a stronger learning motivation. Chinese higher vocational colleges may establish a home-school interaction and information sharing platform to ensure that parents are timely informed of the school's expectations for student development planning, help families better support students' learning and development, while strengthening training in teachers behavior and establishing a student development file system to stimulate learning motivation and promote student development.

Keywords: students' family support, teachers behavior, learning motivation

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1. Introduction

Higher vocational education is an important part of China's vocational education, mainly training professionals with advanced technical skills needed in the fields of service, production, construction and management, and has an irreplaceable role in accelerating China's socialist modernization. The Action Plan for Improving the Quality of Vocational Education (2020-2023), issued by the Ministry of Education and nine other departments in September 2020, for the first time determined that specialized higher vocational education occupies the main position in the coordinated development of vocational education, which is an important way to optimize the structure of higher education (Yu, 2020). According to the 14th Five-Year Plan for National Economic and Social Development of the People's Republic of China and the Outline of 2035 Vision Goals, the scale of vocational education in China should be significantly expanded, the attractiveness of vocational education should be enhanced, and the ability of vocational education to serve local economic development and the strength of running schools should be significantly improved. The mission of China's higher vocational colleges is to cultivate high-skill applied talents (Gao, 2020).

Higher vocational education is an effective way to train high-quality technical talents, and there are still many problems of unbalanced and inadequate development of higher vocational education in China. The quality of student development in higher vocational colleges is a major problem to break through in improving the quality of higher education. Higher vocational education should meet the needs of the development of The Times, improve the quality of the development of educational students, and cultivate well-quality talents with technical skills (Zhuo, 2019).

The development of vocational college students in China is influenced by many factors, including family support, teachers' behavior and learning motivation. A comprehensive student development program is based on the intricate interplay between students' family support, teacher behavior, and learning motivation. The family provides a nurturing foundation for the student's growth, while the teacher is the mentor and guide on the educational journey. When combined with intrinsic motivation to learn, these elements form a powerful combination that promotes academic excellence, personal growth, and prepares students for successful and fulfilling future.

Students' family support refers to the support that students receive in their home environment, including providing a positive learning environment, encouraging academic achievement, and providing appropriate resources and materials. Family support is more than just academic assistance, it also includes emotional encouragement, instilling a sense of self-worth, and promoting a growth mindset (Guo, et. al., 2022). The care and involvement of parents in their studies, as well as the creation of a stable and supportive home environment for students, all contribute to the development of students' interest in learning and positive attitudes (Dorrance, et. al., 2020). When students know they have a strong support system at home, they are more likely to face challenges with resilience, embrace learning opportunities, and develop a positive attitude toward their academic pursuits. The family, as the primary social unit, plays a crucial role in shaping children's values, attitudes and beliefs (Yao, 2020). A supportive home environment provides a nurturing space where students feel valued, respected, and encouraged to explore their unique interests and talents.

In addition to family support, teachers' behavior is another crucial aspect influencing student learning outcomes. Teacher behavior refers to various behaviors taken by teachers in teaching, including teaching methods, caring for students, providing feedback to students in time. As key facilitators in the learning process, teachers have the power to inspire and shape the minds of young people. Teacher behavior and teaching methods

have a profound impact on student engagement, motivation, and academic achievement (Wang, 2023). Active and stimulating teacher behavior can stimulate students' interest in learning, and individualized care and guidance can help improve students' academic performance. A teacher who shows enthusiasm, compassion, and a genuine interest in the growth of her students can foster a positive learning atmosphere that encourages exploration and curiosity. Conversely, teachers' negative behaviors, such as favoritism, criticism, or lack of empathy, can lead students to disengage from class, have low self-esteem, and lack of motivation (Wang, 2022). Therefore, educational administrators must consider professional development programs that equip teachers with effective teaching strategies, communication skills, and emotional intelligence to create an inclusive and supportive learning environment.

Moreover, understanding the nuances of learning motivation is essential for the development of students. Learning motivation refers to the motivation and desire of students to participate in learning activities, including internal motivation and external motivation (Zhang, 2021). Positive learning motivation can help students focus more on their studies and improve their academic performance (Wardani, et. al., 2020). Intrinsic motivation stems from students' genuine interest, curiosity, and the satisfaction of learning itself. When students are internally motivated, they are more likely to take control of their education, set challenging goals, and persevere through obstacles. External learning motivation means that students are driven and motivated by external factors in the learning process, such as rewards, punishments, social recognition or other external incentives from others. This motivation is derived from external circumstances and external goals, rather than an individual's internal interest or satisfaction. It can stimulate students' learning interest and behavior to a certain extent, especially in the short term (Wang, 2023). Educators and family members can work together to stimulate students' intrinsic motivation to learn, thereby improving their academic performance.

At present, the single research on the three variables of student family support, teacher behavior and learning motivation at home and abroad has been relatively mature, and the concept, measurement and related research are relatively rich, which provides perfect literature resources for this study. However, the research on the relationship between the three variables is almost rare.

This study takes Chinese vocational college students as the carrier to explore the influence of three variables: students' family support, teachers' behavior and students' learning motivation on the quality of students' development. Through in-depth analysis of the interaction between the three key elements of family, educators and students themselves, the paper provides theoretical support and practical guidance for the formulation of effective student development plans, and provides theoretical references for higher vocational colleges to further implement the fundamental task of cultivating morality and talents, improve the quality of talent training, and help promote the modernization of vocational education. The significance of this study lies in exploring the relationship between students' family support, teachers' behavior, and learning motivation in Chinese higher vocational colleges.

Objectives of the Study - The objective of this study is to determine the relationship between student's family support, teachers' behavior, and learning motivation in student development plan. Specifically, this study attempted to identify the students' family support in terms of emotional support, behavioral support, motivational encouragement; determine the teachers behavior as regards to instructional, negative teaching, socio-emotional and organizational behavior; assess the learning motivation with regard to internal motivation -interest in seeking knowledge, internal motivation -ability pursuit, external motivation - altruistic orientation and external motivation - reputation acquisition; test the significant relationship among the three variables, and proposed a continuous improvement plan to enhance the students' family support, teachers behavior and learning motivation in Chinese higher vocational colleges.

2. Methods

Research Design - This study used a descriptive research approach to comprehensively investigate the relationship between student family support, teacher behavior, and learning motivation in the context of a student's holistic development plan. Descriptive research involves observing and describing behavior without attempting to influence or control it. This type of research provides a systematic way to describe and interpret data collected in natural settings. It aims to provide a comprehensive overview of a particular phenomenon or group, helping researchers to understand patterns, trends, and characteristics (Siedlecki, 2020). Descriptive research is often used in fields such as psychology, sociology, education, and marketing to gain insights into various aspects of human behavior and societal trends. Descriptive research methods aim to describe, generalize, and explain phenomena or group characteristics by collecting data through questionnaires. It emphasized the objective recording and analysis of facts so that researchers can understand the background, characteristics, and trends of a particular situation, providing a basis for further research or decision-making. This study collected data on students' family support, teachers' behavior and learning motivation by means of questionnaire, descriptive statistics and correlation analysis to reveal the basis of student development plans.

Participants of the Study - The survey objects of this study were students in Chinese higher vocational colleges, and the sex, grade, place of origin and major of the interviewees were described. In order to ensure the diversity of participants' backgrounds and environments, the study distributed questionnaires to 48,000 students from three higher vocational colleges in China, and collected 498 valid samples, including 287 male students and 211 female students. Freshmen had the most respondents, accounting for 67.3 percent. The proportion of students from rural areas and towns is the same, with 175 students, while students from city are the lowest, with 145 students. The number of people in art design and business is 115, the maximum number of people in chemistry is 141, and the number of people in mechanical engineering is 127.

Instrument of the Study - This study collected the basic information of the respondents, including four demographic variables: sex, grade level, place of origin and major. In addition, the following scale was used to collect information on respondents' evaluation of students' family support, teachers' behavior and learning motivation. This study adopted the student Family Support Scale modified by He (2016), which had a total of 20 items and included three dimensions: Emotional Support, Behavioral Support and Motivational Encouragement. Possel, et. al., (2013) teacher behavior scale was adopted, which included four dimensions, respectively: Instructional Behavior, Negative Teaching Behavior, Socio-Emotional Behavior and Organizational Behavior, a total of 37 items. Miao (2021) learning motivation scale is selected as the measurement tool for this study. It includes 34 items in total from internal motivation and extrinsic motivation, and has four dimensions: Seeking Knowledge, Ability Pursuit, Altruistic Orientation, and Reputation Acquisition. The researcher collected 70 initial data sets for reliability testing. Cronbach Alpha scores of the Motivational encouragement dimension in the student family support scale and the Organizational Behavior dimension in the teacher behavior scale were lower than 0.9, which were 0.838 and 0.899 respectively.

Data Gathering Procedure - First of all, after obtaining the informed consent of the school, students and parents, the respondents were invited to fill in the online questionnaire, and each questionnaire adopted a uniform guidance: This is a scientific research anonymous questionnaire, filling out this questionnaire has nothing to do with your grades, evaluations, etc., and would not affect others' opinions of you. This questionnaire provides strict confidentiality about what you answer, there is no right or wrong choice, so you don't have to think too much, just fill in according to your real situation and inner feelings. Then, the 70 initial test data collected were tested for reliability, and Cronbach α coefficients of each dimension in the three scales were calculated. Finally, questionnaires confirmed valid by reliability test were sent to 3 higher vocational colleges in China, and a total of 498 valid questionnaires were collected as the data basis of this study.

Data Analysis - Data analysis included utilizing frequency and percentage distributions to characterize the demographic profile of interviewees based on variables such as gender, grade level, place of origin, and major.

Weighted means and ranking were used to identify family support in terms of emotional support, behavioral support, motivational encouragement; determine teachers behavior as to instructional, negative teaching, socio-emotional and organizational behavior; assess the learning motivation in terms of internal motivation -interest in seeking knowledge, internal motivation -ability pursuit, external motivation - altruistic orientation and external motivation - reputation acquisition. The Shapiro-Wilk Test indicated that the main variable's p-values were above 0.05, suggesting a normal distribution of the dataset. Consequently, non-parametric tests such as Independent Sample t-tests for two groups and Analysis of Variance for three groups were employed to identify significant differences. Additionally, the Pearson Product Moment Correlation was utilized to examine the significant relationships among the variables. Post hoc tests were also carried out. Data were analyzed using PASW version 26 software, with a significance level set at both 0.05 and 0.01. Likert scale ratings were used to assess variables, with ratings ranging from Strongly Disagree (1.00 - 1.49) to Strongly Agree (3.50 - 4.00), ensuring consistent interpretation across analyses.

Ethical Considerations - The ethical considerations of this study prioritized the rights and privacy protection of participants. To ensure the confidentiality and anonymity of participants' information, the researcher implemented a series of measures. Firstly, all participants involved in the study must provide informed consent before participation. They were clearly informed about the purpose, content, and potential risks of the study, and had the freedom to choose whether to participate. Secondly, the researcher strictly adhered to ethical guidelines regarding data collection, storage, and analysis, ensuring that the collected data is used only for scientific research purposes and will not be used for other purposes. Furthermore, the researcher sought approval from the relevant institutional review board to ensure that the entire research process complied with ethical standards. Lastly, the review board conducted reviews and supervision of the ethical aspects of the research, ensuring that the design and implementation of the study comply with ethical and legal requirements, and protect the rights and privacy of participants. The researcher adhered strictly to these ethical principles to ensure the fairness, transparency, and reliability of the research, promoting the development of scientific knowledge and social progress.

3. Results and discussion

Table 1
Summary Table on Students' Family Support

Indicators	Weighted Mean	Verbal Interpretation	Rank
Emotional Support	2.96	Agree	1
Behavioral Support	2.88	Agree	2
Motivational Encouragement	2.83	Agree	3
Composite Mean	2.89	Agree	

Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree

Table 1 presents the summary of students' family support. As seen as in table 1, composite mean of students' family support is 2.89, showing agree. This indicates that the level of students' family support is good. Chinese traditional families pay attention to family affection and family concept, which leads to a relatively high level of family support among students in higher vocational colleges. Parents usually regard their children's studies as part of the family, so they provide more support. The dependence on the family and the emphasis on family affection are the embodiment of traditional culture. Vocational college students are influenced by this traditional idea that family is a safe haven for support and encouragement. Chinese parents generally attach importance to their children's education and believe that a good education is the guarantee of their children's future success (Liu, 2018).

This concept encourages parents to be more actively involved in their children's education and to provide more comprehensive family support. They believe that providing family support is an important part of building a healthy academic environment that produces positive, responsible children. Parents emphasize a sense of responsibility to their children, especially in school (Silva, 2021). Parents see it as their responsibility to help their children succeed, and by providing family support and encouraging academic effort, they convey the idea

that "responsibility comes first." This sense of responsibility prompts parents to provide more support to ensure that their children are fully supported in their studies at higher vocational colleges. With the development of China's economy, some families have gradually improved their economic conditions and are better able to support their children's studies. This includes buying the required learning materials, providing better living conditions, and so on. Chinese society's emphasis on higher education and the competitive social environment have led parents to pay more attention to their children's academic performance (Smith, et. al., 2021).

To cope with competitive pressures, they are more inclined to provide comprehensive family support. The Chinese family is often seen as an important support system for individual growth. In order to ensure their children's academic success, parents are more inclined to provide them with solid support to help them better adapt to the study life in higher vocational colleges. Chinese families usually expect their children to have a better future through education (Kalil, et. al., 2020). In order to achieve this expectation, parents are more willing to invest time and energy to provide all-round support for their children. Due to China's college entrance examination system and fierce academic competition, parents are more understanding of their children's academic pressure.

The average score of emotional support is 2.96, expressing agree and ranking first. It shows that among the various aspects of students' family support, emotional support has the highest level. Chinese culture emphasizes the importance of family and family ties, and emotional support is given a higher value, and the close relationship and emotional exchange between family members are considered the core of the family. This makes the emphasis of family support in vocational college students more on emotional support, parents tend to provide emotional support for their children through warm care, understanding and encouragement, and inherit the warm values of the family. (Moeller, et. al., 2020) Emotional support is crucial to the mental health of college students. In the face of academic pressure, interpersonal relationship and other aspects of the trouble, through in-depth emotional communication with parents, students can find emotional comfort and support, help to relieve anxiety and emotional pressure. Therefore, family members pay more attention to promote their children's mental health through emotional support.

Chinese college students face great academic pressure, and parents try to relieve their children's anxiety and build a positive learning atmosphere by providing emotional support. Emotional support is an effective way to deal with these stresses. Under performing on tests and being stressed helps them cope better with academic challenges. (Ma, 2023) Through emotional support, the relationship between parents and children is closer, and family cohesion is enhanced. The deep affection between family members and the understanding of students lay the foundation for a stable and harmonious family atmosphere. This cohesion has a positive impact on student growth and development, providing students with better growth support. Emotional support is not only about emotional exchange, but also about in-depth analysis of problems and discussion of solutions. (Guo, et. al., 2021) By helping their children analyze problems and providing suggestions, parents can make emotional support more substantive and help to solve practical problems in school and life. Such substantive help can be more reflected in the depth and breadth of emotional support.

The average score of behavioral support is 2.88, expressing agree and ranking second. This indicates that Chinese parents emphasize providing practical support to their children through tangible actions. In China, many families regard education as the most important investment for their children. By providing behavioral support, such as purchasing learning materials, tutoring sessions, etc., parents can directly engage and facilitate their children's learning in the expectation that they will be able to achieve better academic results. In traditional Chinese culture, parents' expectations for their children usually include good career development (Ai, 2020). Chinese society is undergoing changes, and career choice and development have gradually become more complex and critical issues. In order to help their children better adapt to this change, parents consider providing practical behavioral support, such as helping their children with learning plans, assisting with career development, etc., as a way to fulfill family responsibilities (Ran, 2019). This sense of responsibility enables parents to provide concrete and substantive support to their children, which can help them better adapt to the

competition of society, to ensure that their children succeed in their careers and fulfill the expectations of the family.

The average score of motivational encouragement is 2.83, expressing agree and ranking the least. This indicates that Chinese parents also support their children through encouragement and motivation during the learning process. In Chinese culture, academic achievement is often seen as an important family value. Parents emphasize encouraging their children to succeed academically through incentives and rewards to ensure their better future development. There is fierce competition in Chinese society, especially when vocational college students enter the workplace, parents encourage and reward their children's enthusiasm in their studies, hoping that they can stand out in the highly competitive environment. Parents believe that by encouraging and rewarding their children, they can cultivate their interest and motivation for future career development. This incentive helps children to face academic challenges more positively and prepare for their future career paths.

In this study, the order of students' family support scores from high to low is emotional support, behavioral support and motivational encouragement. This could have the following reasons: Chinese culture emphasizes the closeness and emotional connection of family relationships. Emotional support is influenced by cultural traditions, and parents pay more attention to establishing a close bond with their children emotionally in order to maintain family harmony. Under the academic pressure faced by vocational college students, parents may be more inclined to provide emotional support by listening to their children's emotions and experiences to relieve their anxiety and pressure in order to promote mental health.

Behavioral support may involve some practical affairs and decisions, while in Chinese culture, parents may prefer to let their children handle some affairs independently to cultivate their independence. In Chinese culture, encouragement may be seen as a drastic tool, and parents may be more inclined to guide their children through emotional and behavioral support, rather than placing too much emphasis on external rewards. Emotional support may be seen as a way to develop moral character and family values in children. Through emotional support, parents have the opportunity to pass on the moral values of the family and emphasize the cohesion of the family (Luan, 2019). At the stage of higher vocational college students, parents expect their children to realize psychological maturity and self-drive gradually. Emotional support helps cultivate children's ability to solve problems and cope with challenges independently (Green, et. al., 2022).

Table 2
Summary Table on Teachers Behavior

Indicators	Weighted Mean	Verbal Interpretation	Rank
Instructional Behavior	3.16	Agree	1.5
Negative Teaching Behavior	2.12	Disagree	4
Socio-Emotional Behavior	2.75	Agree	3
Organizational Behavior	3.16	Agree	1.5
Composite Mean	2.80	Agree	

Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree

Table 2 shows the summary table on teachers behavior. The combined average score of these 4 items is 2.80, expressing that they agree and showing that higher vocational students have high evaluation of teachers behavior. Chinese vocational students' evaluation of teachers covers many aspects, including teaching methods, care and support, interactive experience, encouragement and incentive.

First of all, students give positive comments on teachers' teaching methods. Effective teaching methods can make students better understand and master knowledge and stimulate their interest in learning (Hu, 2020). Students felt that the teaching methods used by the teacher made the learning process more interesting and motivated them to participate more actively. Secondly, care and support are important factors in students' evaluation, students are grateful to teachers' care and support, which makes them get a warm and harmonious atmosphere in school. (Gu, et. al., 2021) Teachers are not only imparting knowledge, but also guiding students in school, providing them with spiritual support. Interactive experiences also play a role in student evaluations. Active interaction can promote students to better understand the subject knowledge and enhance the

communication between teachers and students. Students felt that teachers focused on interaction and encouraged them to ask questions and participate in class discussions, which made the learning process more participatory and in-depth. Finally, the student evaluation also combines the teacher's patience and responsibility. Teachers give students enough time and space in class, patiently answer questions, pay attention to each student's learning progress, and show a high sense of responsibility. Students affirm the teacher's positive feedback and encouragement, which is not only reflected in the academic progress, but also includes the affirmation of students' personality, interests and hobbies. This positive motivation inspires students to recognize and explore their own potential (Tian, 2023).

Instructional behavior got a weighted value of 3.16, showing agree and ranking first. This shows that Vocational college students highly endorse the teaching behavior of their teachers. Teachers ensure that students understand and consolidate previous knowledge before starting new content, answer questions in a way that is easy for students to understand, and use different explanations when students do not understand, which indicates that teachers employ effective teaching strategies that make it easier for students to master new knowledge (Abdullaevna, 2022). Teachers provide homework support to help students complete coursework and quickly correct students' homework, and this timely homework support and feedback helps students understand and consolidate what they have learned. Teachers encourage students to participate in class, pay attention to students' opinions, and treat each student fairly. This positive interaction and fair treatment helps to build a good teacher-student relationship and stimulate students' interest in learning. The teacher starts the class on time, stays focused and ensures that the class runs efficiently, which helps to create an orderly learning environment that allows students to better focus on the subject content. Teachers set clear end-of-term grading requirements and provided clear goals for students (Luo, 2018). This helps students to better understand the expectations, which helps them to study and prepare for exams in a planned way. These factors work together to form the basis for students' high recognition of teachers' teaching behavior, resulting in better academic performance and more active involvement in learning.

Organizational behavior got a weighted value of 3.16, showing agree and ranking first also. This indicates that the organizational behavior of Chinese vocational college teachers is appropriate and receives high praise from students. When a student misbehaves, the teacher is able to correct and explain why such behavior is wrong in a timely manner, which is not only a way to manage the behavior, but also provides learning opportunities for students to understand the correct behavior expectations. For example, when students use teaching equipment incorrectly or dangerously, the teacher takes preventive measures, which shows that the teacher is concerned about the safety of students, helps prevent accidents, and provides safety education to students to improve their safety awareness and improve the overall quality of the learning environment.

Socio-Emotional behavior (2.75), ranked third. This suggests that the socio-emotional behavior of teachers has gained approval from students, although the level of approval is slightly lower than that for instructional behavior and organizational behavior. Teachers convey positive emotions by changing the tone of voice, using facial expressions, and smiling often. This helps to create a positive learning atmosphere in the classroom and stimulate students' interest in learning. Teachers show respect and attention to students by greeting them, discussing their interests and hobbies with them, and using humor, which helps students enjoy learning more and feel the teacher's care. When students have problems in school or in life, teachers provide a warm space to seek help, and this psychological support makes students feel reassured and helps to solve their problems. Teachers strive to create a relaxed and pleasant atmosphere by talking with students before or after class and telling jokes or funny stories, which helps to build a good teacher-student relationship and makes it easier for students to communicate with teachers. Teachers demonstrate concern for the overall development of students by discussing school and non-school related issues with students, including family issues. This kind of attention is not only limited to studies, but also includes students' lives and interests, which pulls students into the distance from teachers (Tarabia, et. al., 2021).

Negative teaching behavior got a weighted value of 2.12, showing disagree and ranking the least. This

indicates that students believe teachers rarely exhibit negative teaching behavior. In China, teachers are strictly screened, trained and assessed before taking up their posts (Li, 2022), and students feel that teachers are consistent and fair in punishment, rather than based on personal emotions or changes, which helps to establish the predictability and fairness of the learning environment. Students feel that teachers respect their rights, including allowing conversation when appropriate. A teacher asking a student to sit alone may be an attempt to maintain class order rather than a willful or random punishment. Students can clearly understand that the teacher has clear rules and expectations for classroom behavior, so they know when they may face punishment, reducing the sense of uncertainty about the teacher's behavior. In class, students feel that teachers have better emotional management and are not easily angered, which helps to maintain a calm and positive learning atmosphere (Tian, 2020). The teacher can maintain good communication with the students, so that the students know whether the topic is appropriate outside the classroom. This communication helps eliminate unnecessary misunderstandings and reduces concerns about the teacher's vulnerability.

Table 3
Summary Table on Learning Motivation

Indicators	Weighted Mean	Verbal Interpretation	Rank
Internal Motivation -Interest in Seeking Knowledge	2.96	Agree	3
Internal Motivation -Ability Pursuit	3.05	Agree	2
Internal Motivation Composite Mean	3.01	Agree	
External Motivation-Altruistic Orientation	3.09	Agree	1
External Motivation-Reputation Acquisition	2.85	Agree	4
External Motivation Composite Mean	2.97	Agree	
Grand Composite Mean	2.99	Agree	

Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree

Table 3 presents the summary of learning motivation. As seen in table 15, composite mean of learning motivation is 2.99, showing agree. This indicates that students in Chinese vocational colleges have a high level of learning motivation.

The reason why Chinese higher vocational students show strong learning motivation can be attributed to many factors, which are interwoven and jointly shape students' positive attitude towards learning. With the rapid development of China in the field of science and technology, students may realize that having more specialized knowledge and skills is essential to participate in and promote social development, thus enhancing their motivation to study. Chinese society and families often place high expectations on the young generation, especially in education, and the expectations of parents and relatives on vocational college students drive them to study hard to achieve the expectations of family and society for success. In China, the competition for career development is fierce, and with the social change and adjustment of career structure, students are worried about the uncertainty of future employment, which forces them to study harder to increase their competitiveness in employment. Strong employment competition pushes students to have stronger motivation to study and expect to stand out in the workplace.

Chinese Confucian culture emphasizes the dignity of knowledge and learning, regards learning as a noble quality, and attaches great importance to learning, which is deeply rooted in China. This cultural value inspires students' desire for knowledge and keeps them motivated to study academically (Dai, 2021). At the same time, China's education system also has an impact on students' learning motivation. The strict education system, the examination and evaluation system, and the pressure of admission and employment may push students to study harder. Vocational schools may create a positive learning atmosphere that stimulates students' interest. A good educational environment and teaching atmosphere can promote students' strong interest in subjects, thus enhancing learning motivation (Wang, 2021). Some students have a clear understanding of their future career goals and academic goals, and students are more likely to work hard to achieve clear goals, which helps to stimulate their learning motivation.

Internal Motivation has a weighted value of 3.01, showing agree. This shows that Chinese vocational college

students have a strong internal motivation. Students' intrinsic motivation refers to their inner and spontaneous interest, desire and motivation for learning. This motivation stems from internal factors within the individual student rather than external rewards or pressures (Locke, 2019). Students' interest in a certain subject, theme or activity is the key to their intrinsic motivation, and the best motivation is their interest in the subject itself. When students find that the learning content is in line with their personal interests, their thirst for knowledge and love for their professional field can stimulate their learning interest. Students' values about the subject itself, including their belief that the subject is useful to individuals and society, can influence their intrinsic motivation to learn. Students' curiosity about knowledge, problems and solutions is a powerful intrinsic motivation (Wu, 2019).

Curiosity drives students to actively pursue new information and understanding. The sense of achievement students get from overcoming challenges, achieving goals, and making progress reinforces intrinsic motivation and motivates them to continue their efforts. Students' clear goals and aspirations can drive them toward achieving those goals and promote intrinsic motivation. Students' autonomy and self-determination in the learning process, such as being able to choose learning methods, projects or tasks, helps to develop intrinsic motivation. Intrinsic motivation is also expressed as the pursuit of individual self-realization, and they hope to improve themselves through learning and achieve their personal goals and career aspirations (Li, 2022). Students gain cognitive satisfaction through exploring and understanding new knowledge, and this internal satisfaction can continue to promote learning motivation.

Meanwhile, the average score of external motivation is 2.97 expressing agree and shows that Chinese vocational college students have a strong intrinsic motivation also. Students' external learning motivation refers to their motivation driven by external factors in the learning process, which may include external rewards, punishments, social recognition, competition, etc (Zacone, et. al., 2019). Extrinsic motivation stems from the need for future career development. Students are motivated by external factors, such as the demands of the job market, to study hard in a particular field. Expectations and recognition from family, society, and peers are also part of extrinsic motivation. Students feel responsible because of the expectations of others and work hard. Extrinsic motivation can be expressed through a system of rewards and punishments, such as scholarships, honors, parental encouragement, and other extrinsic rewards that can stimulate interest in learning. At the same time, avoiding punishment or reducing external pressure can also be an external motivation for learning. Students may work hard to avoid failure or punishment. Driven by a desire for social approval and respect, such as the approval of teachers, parents, and classmates, students translate this recognition into external learning motivation, striving to gain an edge in competition, win, or surpass others. Students also work hard to achieve externally setting goals, such as getting good grades, entering their ideal schools, etc. Research shows that in the vast majority of cases, intrinsic motivation is more influential for students' academic performance and persistence, and more conducive to long-term learning outcomes and personal development (Zeng, 2021). However, extrinsic motivation is also necessary in some contexts and can drive a student's behavior in the short term, especially in terms of career development and social recognition.

In Table 3, the average score for internal motivation is slightly higher than external motivation. This indicates that Chinese vocational college students have a stronger internal motivation for learning compared to external motivation.

Intrinsic motivation stems from an individual's intrinsic interests and desires, rather than external rewards or punishments. This makes learning or behavior more autonomous and spontaneous, increasing long-term persistence. Intrinsic motivation helps to cultivate long-term learning motivation. Many vocational students choose the major they are interested in or love, which itself is the embodiment of intrinsic motivation. They take a keen interest in what they are learning and thus feel internally satisfied during the learning process. They are eager to improve themselves through learning and achieve their personal goals and professional ambitions. Intrinsic motivation involves pleasure and satisfaction with the task itself (Bailey, et. al., 2021). When individual students feel that what they are doing has deep meaning to them, they are more likely to be fully engaged. Vocational college students usually focus on long-term career planning, and they make clear their future career

goals. The realization of these goals requires internal motivation to promote their hard study. In the learning process, cognitive satisfaction is obtained through continuous exploration and understanding of new knowledge, which is usually a strong internal motivation. Vocational college students spend more time on independent learning, and they are willing to take the initiative to participate in learning activities, rather than just being driven by external factors. This autonomy is a manifestation of intrinsic motivation. At the same time, intrinsic motivation is closely related to creativity and innovation, and when individuals have intrinsic passion for tasks, they are more likely to display creative thinking and independent problem-solving abilities. Overall, intrinsic motivation helps to build sustainable learning motivation, making students more motivated to overcome difficulties, keep improving, and derive deeper satisfaction from the learning process. While intrinsic motivation is generally more powerful, extrinsic motivation still plays a role in some situations. Therefore, understanding and balancing internal and external motivation is essential to promote the all-round development of students (An, 2020).

Table 4
Relationship Between Students' Family Support and Teachers Behavior

Emotional Support	r-value	p-value	Interpretation
Instructional Behavior	.563**	0.000	Highly Significant
Negative Teaching Behavior	.208**	0.000	Highly Significant
Socio-Emotional Behavior	.421**	0.000	Highly Significant
Organizational Behavior	.402**	0.000	Highly Significant
Behavioral Support			
Instructional Behavior	.627**	0.000	Highly Significant
Negative Teaching Behavior	.301**	0.000	Highly Significant
Socio-Emotional Behavior	.527**	0.000	Highly Significant
Organizational Behavior	.457**	0.000	Highly Significant
Motivational Encouragement			
Instructional Behavior	.620**	0.000	Highly Significant
Negative Teaching Behavior	.318**	0.000	Highly Significant
Socio-Emotional Behavior	.518**	0.000	Highly Significant
Organizational Behavior	.416**	0.000	Highly Significant

Legend: Significant at p-value < 0.01

Table 4 displays the association between students' family support and teachers' behavior. The computed correlation coefficients (r-values) suggest a strong positive correlation, with resulting p-values below the alpha level, indicating highly significant relationships. These results imply that as students receive greater support from their families, teachers' behavior becomes more positively motivated. Family support helps to cultivate students' positive learning attitude and positive view of the school. When students are satisfied with and recognized by the school, they are more likely to actively participate in classroom activities and interact with the teacher, thus affecting the teacher's positive behavior, and students are more able to positively evaluate and experience the teacher's behavior. At the same time, family support helps to cultivate students' self-confidence and sense of security, making them easier to accept teachers' guidance and education, and thus more actively respond to teachers' behaviors (Jiang, 2019).

A student's family support is often accompanied by an emphasis on academics, which makes the student more focused on learning and more likely to perceive the positive influence of the teacher in the learning process. Family support helps to increase students' academic engagement, and actively engaged students are more likely to attract the attention of teachers and may receive more attention and support from teachers during the teaching process. Family support may motivate students to pursue academic success more strongly. Students with high motivation are more likely to display a positive attitude in the classroom. A supportive family environment can improve students' social emotional ability, make them better able to understand and feel teachers' social behaviors, and thus have a higher evaluation of teachers' behaviors, which in turn will further motivate teachers' behaviors (Barger, et. al., 2019). Although students' family support may not directly change teachers' behavior, it can indirectly affect teachers' behavior by influencing students' attitude, participation degree and learning motivation, which can bring about positive changes in teachers' behavior in the teaching environment. For example, teachers usually respond positively to students who are actively involved and motivated.

Table 5 illustrates the association between students' family support and learning motivation. The computed correlation coefficients (r-values) suggest a strong positive correlation, with resulting p-values below the alpha level, indicating a statistically significant relationship. These findings suggest that as students receive better support from their families, their motivation levels increase.

Table 5
Relationship Between Students' Family Support and Learning Motivation

Emotional Support	r-value	p-value	Interpretation
Internal Motivation -Interest in Seeking Knowledge	.475**	0.000	Highly Significant
Internal Motivation -Ability Pursuit	.448**	0.000	Highly Significant
External Motivation - Altruistic Orientation	.423**	0.000	Highly Significant
External Motivation - Reputation Acquisition	.407**	0.000	Highly Significant
Behavioral Support			
Internal Motivation -Interest in Seeking Knowledge	.560**	0.000	Highly Significant
Internal Motivation -Ability Pursuit	.509**	0.000	Highly Significant
External Motivation - Altruistic Orientation	.466**	0.000	Highly Significant
External Motivation - Reputation Acquisition	.483**	0.000	Highly Significant
Motivational Encouragement			
Internal Motivation -Interest in Seeking Knowledge	.529**	0.000	Highly Significant
Internal Motivation -Ability Pursuit	.463**	0.000	Highly Significant
External Motivation - Altruistic Orientation	.417**	0.000	Highly Significant
External Motivation - Reputation Acquisition	.440**	0.000	Highly Significant

Legend: Significant at p-value < 0.05

Emotional support in students' family support can promote students to establish a positive emotional state, a warm and supportive family environment can cultivate students' self-confidence, encouragement, understanding and support from family members can make students feel safe, and students are thus more motivated to face learning challenges, thus enhancing their enthusiasm for learning. Family support can provide a sense of security and stability, making it easier for students to focus on their studies, and students may be more confident in facing academic challenges when they have a stable support system, thus improving their learning motivation (Xiao, 2022). Students' family support is related to the family's expectations and expectations for students, and parents' motivation and high expectations for students can stimulate students' internal motivation, students work hard out of the desire to return to the family and meet the expectations, eager to achieve better grades, and thus maintain a high motivation for learning, which may lead to better academic performance. Family support provides students with a sense of identity and belonging, making them feel an important part of their family, and this sense of identity can motivate students to work hard to gain family recognition and pride (Ma, et. al., 2021). Families provide students with learning resources and support, such as books, learning tools, tutoring, etc., to help students better complete their studies and increase their enthusiasm for learning. Family support provides a support system for students to face academic and life problems, and students with family support are more likely to effectively cope with challenges and reduce pressure. Family is the main place for the transmission of values. Parents' emphasis on education and views on knowledge will have a profound impact on students. Such positive family values help form students' positive attitude towards learning and strong desire to learn (Bokayev, 2021).

Table 6
Relationship Between Teachers Behavior and Learning Motivation

Instructional Behavior	r-value	p-value	Interpretation
Internal Motivation -Interest in Seeking Knowledge	.608**	0.000	Highly Significant
Internal Motivation -Ability Pursuit	.577**	0.000	Highly Significant
External Motivation - Altruistic Orientation	.567**	0.000	Highly Significant
External Motivation - Reputation Acquisition	.435**	0.000	Highly Significant
Negative Teaching Behavior			
Internal Motivation -Interest in Seeking Knowledge	.282**	0.000	Highly Significant
Internal Motivation -Ability Pursuit	.218**	0.000	Highly Significant
External Motivation - Altruistic Orientation	.142**	0.001	Highly Significant
External Motivation - Reputation Acquisition	.373**	0.000	Highly Significant
Socio-Emotional Behavior			
Internal Motivation -Interest in Seeking Knowledge	.626**	0.000	Highly Significant
Internal Motivation -Ability Pursuit	.526**	0.000	Highly Significant
External Motivation - Altruistic Orientation	.486**	0.000	Highly Significant
External Motivation - Reputation Acquisition	.500**	0.000	Highly Significant
Organizational Behavior			
Internal Motivation -Interest in Seeking Knowledge	.626**	0.000	Highly Significant
Internal Motivation -Ability Pursuit	.604**	0.000	Highly Significant
External Motivation - Altruistic Orientation	.563**	0.000	Highly Significant
External Motivation - Reputation Acquisition	.405**	0.000	Highly Significant

Legend: Significant at p-value < 0.01

Table 6 displays the association between teachers' behavior and learning motivation. The calculated correlation coefficients (r-values) suggest a robust positive correlation, with resulting p-values below the alpha level, indicating a statistically significant relationship. These results suggest that as teaching behavior improves, students' motivation levels also increase.

Good teaching behaviors of teachers make the course content more vivid and interesting, while emphasizing the practicability of knowledge, stimulating students' strong interest in the subject, providing students with positive learning experience, and making students more willing to participate in learning activities. Teachers' positive teaching methods affect students' motivation level. For example, teachers' clear explanation, targeted and adaptive teaching methods and positive interactive ways can better satisfy students' learning interests and thus improve their learning motivation (You, et. al., 2021). Teachers' positive teaching behaviors such as encouragement, praise and attention can provide students with motivation and recognition, make them feel that their efforts are valued, and stimulate students' learning enthusiasm and self-confidence (Krischler, et. al., 2019). Good teaching behaviors of teachers help establish positive teacher-student relationship, including supportive interaction and effective communication, help build students' confidence in learning, and students are more likely to maintain learning motivation when they are respected, supported and understood (Ma, et. al., 2019).

Good teaching behavior of teachers helps to create a positive classroom atmosphere, so that students feel happy and comfortable in learning. A positive and open learning atmosphere makes students feel relaxed and comfortable, which helps to reduce learning anxiety and improve their initiative and enthusiasm for learning. Good teaching behavior can convey the signal of high expectations for students, encourage students to set higher academic standards, and thus improve their learning motivation. Good teacher behavior also involves understanding the individual needs of students and paying attention to their interests and goals. (Zeng, 2023) By adopting diversified and personalized teaching methods and considering the differences of students, teachers can help meet different learning styles and needs and improve students' learning motivation. Giving students timely feedback and recognition, emphasizing their strengths and efforts, helps to establish a positive learning atmosphere and motivate them to learn. Teachers promote cooperative learning and foster teamwork, which not only improves students' understanding of subjects, but also promotes mutual assistance and support among each other, which has a positive impact on learning motivation.

Table 7*A Proposed Development Plan for Chinese Higher Vocational College*

Key Result Area/ Objectives	Strategies/Activities	Success Indicator	Persons involved
Students' Family Support 1.1 Motivational Encouragement Objective : Enhance family support for students' development	1. Create an online platform for parents to share their students' school performance. 2. Regularly hold parent-school collaborative workshops, partnering with parents to encourage and motivate students. 3. Develop a parenting guidance manual offering practical advice and techniques for parents to motivate and support their children. 4. Organize regular online or offline parent meetings.	1. 95% of parents can keep abreast of their children's school performance 2. Organize home-school linkage activities no less than three times per semester 3. Parent meetings shall be held at least twice per semester, including pre-term and end-of-term summing-up meetings	School information service center School affairs department Homeroom teacher
Teachers Behavior Socio-Emotional Behavior Objective : Improve teacher behavior to promote student development programs	1. Establish clear guidelines for teacher behavior, including socio-emotional conduct. 2. Conduct regular teacher training sessions, including training on emotional and social management. 3. Establish a mechanism and channel for anonymous student feedback. 4. Enhance the teacher evaluation system, including student feedback, and emphasize the importance of teacher emotional management.	1. More than 98% of the teachers can clearly define and implement the teachers' code of conduct 2. Conduct at least one training on emotion management skills and strategies every semester, and at least one case sharing session on handling conflict incidents 3. Hold at least one student feedback forum every semester about teachers' socio-emotional behavior	School personnel department All teachers
3. Learning Motivation 3.1 External Motivation-Reputation Acquisition Objective : Stimulate the learning motivation and promote the student development plan of Chinese higher vocational students	1. Establish a clear reward system, such as setting up scholarships, honorary titles, etc. 2. Create a public recognition mechanism, such as organizing award ceremonies or events within the school or community to recognize students' achievements. 3. Regularly conduct career planning lectures and exhibitions, as well as organize events where outstanding alumni can share their experiences. 4. Foster a positive competitive environment. For example, organize academic competitions or skill contests to allow students to demonstrate their abilities and gain recognition and respect through competition.	1. More than 95% of the students' learning motivation was improved 2. Hold at least one outstanding alumni exchange meeting every semester 3. Hold at least two commendation ceremonies each semester, one at mid-term and one at the end of term, to recognize outstanding student performances.	School Academic Affairs Department School Student Affairs Department All students

4. Conclusion and recommendation

The respondents were from public higher vocational colleges in China, and most of them were first year students and more than half came from rural and urban areas. There was a high level of students' family support in terms of emotional support, behavioral support and motivational encouragement. There was a positive agreement on the level of teachers' behavior in terms of instructional behavior, socio-emotional behavior and organizational behavior, except negative teaching behavior. There existed a considerable degree of learning motivation in terms of Interest in seeking knowledge, ability pursuit, altruistic orientation, and reputation acquisition. There was significant difference when grouped according to year level and major on students' family support. Regarding teacher behavior, significant differences existed among students based on sex, grade level and place of origin; only sex had significant difference in terms of learning motivation, with male exhibiting stronger motivation. The relationship between and among the three variables (students' family support, teachers' behavior and learning motivation) revealed that there existed a strong positive association among these variables as the increase in one of them possibly aid in the increase of the other. A continuous improvement plan for Chinese higher vocational college students' development was proposed.

Chinese higher vocational colleges may organize the establishment of an online platform for home-school interaction to strengthen communication and cooperation with students' families, establish a mechanism for home-school collaboration, promote the effective role of student family support, provide opportunities for parental involvement in school activities, and jointly focus on students' learning and growth. Administrators of higher vocational colleges may formulate and improve school education management policies to support

teachers' professional development and teaching innovation; strengthen teacher training and guidance, provide more teaching resources and support; establish a systematic teacher development tracking mechanism, regularly assess teachers' teaching behaviors, create a good educational environment, and promote the improvement of school teaching quality.

Teachers may focus on building good relationships with students, pay attention to students' personalities and needs, so as to better stimulate students' interest and motivation in learning; design and implement a student development file system, record key information about family support, teacher behavior, and learning motivation, in order to better track students' progress. Higher vocational colleges in China may establish an online platform for sharing resources among schools, families, and teachers, where schools, families, and teachers collaborate to promote student development and form sustainable development plans. Future researchers may pay more attention to students' internal needs, conduct research from different dimensions and perspectives, and carry out quantitative and qualitative combined research to provide more theoretical and practical support for the reform of education and teaching in higher vocational colleges.

5. References

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