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Mediation of Achievement Goal Orientation between Teacher Support and Learning Engagement among Vocational University Students

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ABSTRACT

For vocational university students, teachers are the most important social subject in the learning environment. They not only teach in class but also develop and coordinate after-class events. Interactions between teachers and students have the potential to influence students' learning behavior, academic motivation, and academic achievement. As the positive state pursued in the learning process, students' learning motivation and engagement not only are the basis for ensuring learning effectiveness but also exert a subtle influence on students' academic performance. Therefore, the investigation on learner engagement as a key criterion to increase quality has received increasing attention as it involves the students' academic achievement and their personal growth. Investigating the internal mechanisms and external situations that encourage students' learning engagement is critical. This study will review the literature on achievement goal orientation as a mediating factor, examining its influence on the connection between teacher support and learning engagement.

Keywords: Achievement goal orientation; learning engagement; teacher support; vocational university

VOCATIONAL UNIVERSITY IN CHINA

With our country entering a new development period, the industry has been further upgraded, the pace of economic restructuring has accelerated, and the need for trained technical talents has increased. Therefore, the importance of higher vocational education became highly prominent in 2019, when China achieved a gross enrollment rate of 51.6% in higher education, marking the country's transition into the phase of widespread educational accessibility (Ministry of Education, 2020). Statistics show that as of March 2022, the country had 32 vocational universities, with 129,000 students (Ministry of Education, 2022). On October 12, 2021, the Ministry of Education (2021) outlined in the document "Opinions on Promoting the High-Quality Development of Modern Vocational Education" a goal for the year 2025. The plan aims to ensure that the enrollment capacity of vocational universities constitutes at least 10% of the overall enrollment capacity of higher vocational education. Additionally, the document encourages application-oriented undergraduate institutions to implement vocational undergraduate programs.

Simultaneously, as vocational education expands, practical challenges are encountered, including issues such as limited appeal and a scarcity of highly skilled technical professionals (Deng, 2021). Although the Ministry of Education has implemented policies to address these challenges, these efforts represent only the initial steps toward ensuring the quality of higher vocational undergraduate education. These measures, although fundamental, have not yet addressed the fundamental essence of educational quality. A considerable distance still needs to be covered in enhancing the quality of higher vocational undergraduate education.

The difference between vocational undergraduate universities and ordinary traditional universities is a common concern (Deng, 2021; Fang et al., 2023). Vocational and traditional undergraduate universities have the same important status as higher education types. They all

enjoy the same undergraduate degree rights and interests in the management of school records, and all train talents at the undergraduate level. The difference is that vocational undergraduate universities are based on the development of career or post needs and belong to employment-oriented education. In the face of dynamic market demands, they train students to obtain new knowledge and skills in the field of respective occupations or posts and become practical and professional high-quality applied talents (Liu, 2022). By contrast, ordinary traditional university is based on the development of professional disciplines, and the construction of disciplines and specialties is the key issue in the field of ordinary traditional undergraduate education research. The ordinary traditional university pays attention to its academic nature, continuously strengthens the construction of academic achievements, carries out academic research, and trains academic talents (Liu, 2022).

The continuous progress of vocational undergraduate universities is not only a necessity for enhancing vocational education but also an essential requirement for fulfilling people's demands for top-notch employment and education. Consequently, enhancing the training of skilled individuals stands as the central challenge in ensuring the stable and high-quality advancement of vocational undergraduate education (Cui & Yao, 2023). The quality of this training is intricately linked to what students gain from their learning experiences, and a pivotal factor here is how actively students engage in their learning activities (Chiu et al., 2021). Hence, examining the learning engagement of students in vocational universities is imperative.

TEACHER SUPPORT

Teacher support plays a crucial role within the broader social support system. Although various sources of support, including parents, teachers, and peers, contribute to students' healthy development and academic success, the significance of each source differs. Teachers serve as the orchestrators and executors of teaching activities. Their impact on students' learning motivation and engagement in tasks is particularly direct (Hanaysha et al., 2023). This section provides a summary of research on teacher support, delving into its conceptual meaning, exploring teacher support through the lens of self-determined motivation, and examining methods used to measure teacher support.

CONCEPTUAL CONNOTATION AND DIMENSION OF TEACHER SUPPORT

Teachers hold a central role within the classroom learning environment. They translate educational concepts into practical actions and offer valuable guidance to students throughout their learning journey. Teacher support represents a vital aspect of positive teacher conduct, serving as an essential variable in the social environment that helps comprehend students' learning behaviors and academic accomplishments.

Trickett and Moos (1973) contended that teacher support encompasses how students perceive the care and help provided by teachers. By contrast, Fraser et al. (1996) characterized teacher support as students' understanding of teachers' attention, friendliness, emotional care, and aid with their issues. Ryan and Patrick (2001) described teacher support as students' belief in teachers valuing them and forming interpersonal connections. Brewster and Bowen (2004) defined teacher support as teachers' capacity to listen, motivate, and show respect to students. Ouyang (2005), a Chinese scholar, suggested that perceived teacher support behavior is about how students view teachers' supportive attitudes in their learning and daily lives. Zhang (2012) considered teacher support to include various forms of assistance received from teachers, encompassing emotional and informational help. Yu (2019) viewed teacher support as the care and assistance students experience during the learning process, highlighting its importance as a manifestation of teachers' efforts in their teaching roles.

Teacher support can be perceived as a variable with varying dimensions in research studies. Some scholars, such as Ryan and Patrick (2001), Patrick et al. (2007), Ferrell (2012), and Tas (2016), considered teacher support as a unidimensional variable, focusing on a singular aspect. However, others, such as Malecki and Demaray (2003) and Wentzel et al. (2010), have identified multiple dimensions of teacher support. Malecki and Demaray (2003) identified emotional, instrumental, informational, and evaluative support as key elements of teacher support. In a similar vein, Wentzel et al. (2010) outlined four dimensions, namely, conveying expectations and values; offering assistance, advice, and instructions; establishing a secure environment; and providing emotional support.

Furthermore, Wentzel et al. (2017) broadened the dimensions to encompass teachers' expectations of mutual assistance behavior, emphasizing teaching content, teacher help, and emotional care, thereby providing a comprehensive understanding of teacher support. Mitchell and DellaMattera (2011) emphasized teacher support in terms of providing assistance for learning tasks, expressing care for students, and showing genuine interest in students' well-being and happiness.

In the Chinese scholarship context, Ouyang Dan (2005) categorized perceived teacher support into three aspects: learning support, ability support, and emotional support. These dimensions have been adopted by other scholars such as Chen and Lu (2021), Yu (2019), and Zhang (2012), illustrating the multifaceted nature of teacher support in the educational context.

TEACHER SUPPORT FROM THE PERSPECTIVE OF SELF-DETERMINATION MOTIVATION

The impact of teacher support on students' motivation and behavior will be examined through the lens of self-determined motivation theory. This perspective will be used to understand the positive impact of teacher support on students' engagement and learning outcomes. In the realm of self-determined motivation theory, significant focus has been placed on understanding how social and environmental factors influence individuals' satisfaction with basic psychological needs and intrinsic motivation. When a positive learning environment is established, where students are provided with appropriate support, their autonomy, relationships, and abilities are fulfilled. Consequently, students tend to exhibit strong intrinsic motivation, adaptive learning behaviors, positive emotions related to learning, and outstanding academic performance (Assor et al., 2002; Borah, 2021). As emphasized by Baker et al. (2003), when a school environment provides social support for students' needs, it fosters a mentally healthy atmosphere for learning.

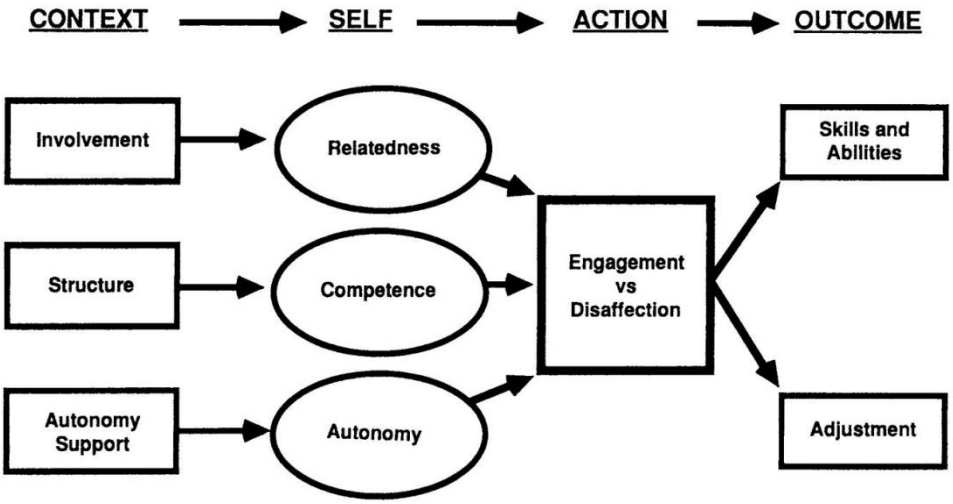
Based on the self-determined motivation theory and the self-system model of motivational development proposed by Connell and Wellborn (1991), Skinner and Belmont (1993) formulated an influence model of learning engagement. This model explores the relationship among context, self, action, and outcome (Figure 1). According to this model, the satisfaction of students' basic psychological needs directly affects their learning engagement, which subsequently influences their abilities and social adaptation. Teachers play a crucial role in shaping students' behavior by fulfilling these basic psychological needs.

Teachers' behaviors, aligned with students' basic psychological needs, encompass involvement, structure, and autonomous support. In this context, involvement pertains to the quality of interpersonal relationships among students, teachers, and classmates. Structure in the context of learning refers to the quantity of pertinent information within the learning environment that is necessary for achieving expected goals. From another aspect, autonomous support indicates the degree to which teachers enable students to have the independence to determine their behavior and decisions.

Building on the research conducted by Skinner and Belmont (1993), this study categorizes teacher support into three distinct dimensions: autonomous, emotional, and

competence support. These dimensions are conceptually distinct and have different levels of impact on students' learning behavior and academic achievement. Next, the influence of three types of teacher support will be explained.

FIGURE 1. Influence model of learning engagement
From: Connell, J. P., & Wellborn, J. G. (1991)



RESEARCH RELATED TO TEACHER SUPPORT

Teacher support serves as a valuable social resource. When students feel the care and affection of their teachers and receive guidance and assistance with their academic and social challenges, they tend to exhibit positive learning and social behaviors, leading to strong academic performance.

Teacher support serves a key role in developing students' achievement motivation. Danielsen et al. (2010) demonstrated that perceived teacher support has a moderately positive impact on individual academic motivation. Shen et al. (2010) delved into the effect of teacher support in high school physical education, focusing on autonomy support, ability support, and relationship support. They found that teachers' relationship support is negatively correlated with students' lack of task value and motivation stemming from disinterest. Teacher ability support showed a negative correlation with various dimensions of motivation deficiency, whereas teacher autonomy support did not significantly relate to motivation deficiency.

In the study of Ricard and Pelletier (2016) involving 10th-grade high school students, the support for students' basic psychological needs provided by teachers significantly impacts students' learning motivation. Additionally, Wang and Zhao (2022) used a meta-analysis to explore the relationship between teacher support and students' academic achievement. They found that teacher support not only fosters the internalization of motivation and academic achievement through fulfilling psychological needs but also directly influences academic motivation. These studies collectively highlighted the pivotal role of teacher support in enhancing students' motivation and academic performance.

Teacher support has a significant impact on students' academic emotions and attitudes (Schweder & Raufelder, 2019). In classroom settings, when students perceive teacher support, they become highly interested in learning, derive further enjoyment from academic tasks, and develop high expectations for academic success (Ryan & Patrick, 2001). Teachers' supportive behavior plays a crucial role in shaping students' positive emotional experiences and attitudes toward their academic endeavors. Schweder and Raufelder (2019) noted that a positive teacher–student relationship can cause positive academic emotions, which is conducive to problem-solving and self-regulation. Conversely, negative teacher–student relationships can

lead to negative academic emotions, which can have a negative impact on attention and self-regulated learning. Wentzel (1997) highlighted that teacher support can also encourage students to develop a positive attitude toward school. Teachers' supportiveness contributes significantly to shaping students' overall outlook on their school experience, fostering a positive perception of the educational environment. Roeser, Eccles, and Sameroff (1998) stated that teacher support can affect students' emotional regulation in school. Liu et al. (2017) researched primary school students in China and discovered that perceived teacher support in math classes is linked to students' positive emotions. Lei et al. (2018) concluded that teacher support significantly influences students' academic emotions, with these relationships being influenced by factors such as culture, age, and gender. Additionally, Wu et al. (2023) found that when students feel appreciated by teachers, they find learning activities enjoyable and experience a sense of relaxation and happiness in the classroom. Conversely, when students perceive teacher inattention or neglect, they are likely to have negative emotions, such as boredom, sadness, and anger, during the learning process. Teachers' attentiveness and support play a pivotal role in shaping students' emotional experiences within the classroom environment.

Teacher support has a direct impact on students' learning engagement, encompassing efforts, persistence, and the utilization of learning strategies. When students acknowledge their teacher's support, they are more likely to invest greater effort into their academic pursuits and demonstrate increased persistence, particularly when confronted with challenging learning tasks, as highlighted by Goodenow (1993). The supportive environment created by teachers encourages students to apply themselves diligently and persistently in their studies. Woolley, Kol, and Bowen (2009) stated that teacher support has a significant direct impact on student behavior and school satisfaction. Teacher support is also the mediating variable of parental support, peer support, peer school behavior, and parental supervision. Yildirim (2012) took Turkish students as subjects to explore the impact of perceived teacher support and motivational beliefs (including self-efficacy, anxiety, intrinsic value, and instrumental value) on the use of learning strategies. They found that support from teachers had beneficial effects on students' confidence in their abilities, their genuine interest in learning, and the practical value they saw in their studies. Moreover, support from teachers reduced their feelings of anxiety. Furthermore, the perception of teacher support and students' motivational beliefs positively influenced the adoption of effective learning strategies. Finally, teacher support was linked to students' emotional investment in the learning process. These results were observed in a study conducted by Sha et al. (2020), where they investigated how teacher support strategies influenced students' engagement in blended teaching, using Chinese college students as their research participants. The research findings indicate that teacher support exerts positive effects on students' self-efficacy, intrinsic value, and instrumental value while reducing feelings of anxiety. Furthermore, perceived teacher support and motivational beliefs positively influence the adoption of effective learning strategies. Additionally, teacher support impacts students' emotional engagement. Sha et al. (2020) conducted a study on Chinese college students in a blended teaching environment and found that teacher support strategies have a beneficial impact on enhancing students' academic cognitive engagement. A positive teacher–student relationship is a strong predictor of students' engagement level, learning motivation, effort, strategic learning approaches, academic achievement, and mental well-being. This result highlights the profound impact of supportive teacher–student interactions on various aspects of students' academic and emotional engagement in the learning process.

Finally, teacher support has an effect on students' academic performance. Gregory and Weinstein (2004) analyzed a sample from the National Educational Longitudinal Study. They found that, of all the predictors considered, the relationship between teachers and students is the most important factor affecting the mathematics achievement of middle school students.

The research results of Ahmed et al. (2010) show that teacher support has a significant direct impact on mathematics achievement. Moreover, even when considering the influence of competency beliefs, intrinsic value, perceived importance value, pleasure, and anxiety as mediating factors, the positive impact of teacher support on math achievement remained substantial and significant. The conclusions have also been recognized by Chinese scholar Liu et al. (2017). Moreover, the research results of Wang (2021) showed that the support from teachers has a significant effect on the improvement of academic performance. Teachers must be attentive to each student and offer them academic assistance and guidance whether in classroom teaching or extracurricular tutoring.

CONCEPTUAL CONNOTATION AND DIMENSION OF ACHIEVEMENT GOAL ORIENTATION

Many famous scholars have discussed the definition of achievement goal orientation. Generally speaking, learning-oriented achievement goals focus on the development of abilities and skills and evaluate one's own performance against internal standards. Elliot and Dweck et al. (1988) proposed that achievement goal orientation is a kind of achievement plan of an individual, which reflects the cognitive process of an individual and contains three components: emotion, cognition, and behavior. Ames (1992) found that achievement goal orientation is the purpose of a person's achievement behavior, including the individual's belief in his own ability, expression of emotion, and attribution of success or failure. Ryan et al. (1998) noted that achievement goal orientation is the purpose of an individual to carry out a certain activity, which is often related to the situation related to competence, and the individual can also perceive it. Chinese scholar Zhang (2004) proposed that achievement goal orientation is an individual's cognition of completing a certain task, which includes the cause of the task, the task goal, and the belief held in the process of the task. Nevertheless, scholars Zhang (2020) and Liu (2021) endorsed Pintrich's (2000) definition of achievement goal orientation. They contended that achievement goal orientation is an individual's cognitive representation of the purpose or cause behind an achievement task. Achievement goal orientation constitutes an organized belief system encompassing aspects such as purpose, ability, effort, errors, standards, and competence.

The dimensions of achievement goals can be divided in various ways, which are divided into the following three types: (1) Two-dimensional structure: for example, Dweck (1988) proposed the theory of achievement goal orientation factors. He believed that achievement goal orientation should contain two dimensions, namely, performance goal orientation and mastery goal orientation. Ames et al. (1988) argued that achievement goal orientation comprises mastery goal orientation and achievement goal orientation. In learning activities, the former emphasizes the development of one's own abilities and the depth of understanding and mastery of knowledge, focusing on self-improvement and personal growth. In learning activities, the latter mainly pursues high grades; they often tend to compare with others, prove their ability to others, and think that their success is better than others. (2) Three-dimensional structure: Based on the two-dimensional structure theory of achievement goal orientation, Elliot (1997) introduced the approach-avoidance structure into the division of achievement goal orientation and proposed the three-dimensional structure theory. Among them, the achievement goal orientation is subdivided into the achievement avoidance goal orientation and the achievement trend direction. The three-point goal model introduced by the Elliot team has become the most widely employed framework in research studies. In this study, the achievement goal model of the Elliot team will be adopted to carry out follow-up research. (3) Four-dimensional structure: Based on the three-dimensional structure, Elliot and Mcgregor (2001) proposed a four-dimensional structure of achievement goal orientation in the later stage of the study, namely,

four dimensions of achievement approach goal, achievement avoidance goal, mastery approach goal, and mastery avoidance goal. Different from the three-dimensional structure theory, individuals with mastery approach tend to pursue some challenging tasks in the process of task completion, focusing on whether the white body ability increases and the mastery of new knowledge: In the process of completing tasks, individuals with mastery avoidance goals often expect to make no mistakes and tend to choose some less difficult tasks when choosing tasks, to avoid failing to master tasks (Liu, 2022).

RESEARCH RELATED TO ACHIEVEMENT GOAL ORIENTATION

Past studies on achievement goal orientation typically focused on investigating the factors that influence achievement goal orientation and examining how achievement goal orientation impacts learning outcomes or learning behaviors. As for the influencing factors of achievement goals, Elliot and MeGregor (2001) studied two important factors: motivational tendency (need for achievement, fear of failure, and self-determination) and environmental perception (perceived class engagement). They argued that the formation of individual achievement goals is based on fear of failure, low self-control, and perceived class engagement. First, achievement goals are influenced by achievement motivation. In empirical studies, achievement motivation is often assumed to be the antecedent variable of achievement goals. Diseth and Kobbeltvedt (2010) comprehensively considered the impact of achievement motivation, achievement goals, and learning strategies on students' academic achievement. The findings indicate that motivation for success positively influences learning and achievement-reach goals. Additionally, learning and achievement-reach goals serve as intermediaries in the connection between success motivation and deep learning strategies. Conversely, the motivation to avoid failure significantly negatively impacts achievement-avoidance goals. Moreover, achievement-avoidance goals act as intermediaries in the relationship between the motivation to avoid failure and shallow learning strategies. Dinger et al. (2013) found that expectation of success can positively predict students' learning and achievement-reaching goal orientation, and fear of failure can positively predict achievement-reaching and achievement-avoiding goals.

Ames (1992) also pointed out that environmental factors themselves are the key factors that directly affect individual achievement goal orientation. Numerous studies have centered on examining how the classroom environment affects achievement goals. Greene et al. (2004) developed a tool to measure students' perceptions of the classroom environment. This tool includes several dimensions. First, the motivating tasks dimension assesses how students view the meaningfulness, relevance, and interest of classroom learning tasks. Second, the autonomy support aspect measures the degree to which teachers support students' autonomy, involving activities, such as offering choices, nurturing a sense of learning responsibility, and promoting self-regulated learning. Finally, the mastery evaluation dimension evaluates students' perceptions of teacher evaluations, focusing on fairness and mastery of knowledge rather than social comparison or competition. Additionally, the concept of achievement goal structure in the classroom emphasizes creating an environment that highlights competence through teacher performance and classroom practices. Teachers' behaviors and communication convey their beliefs about achievement goals, potentially influencing students' goals, behaviors, and perceptions within that specific curriculum (Murayama et al., 2009).

Therefore, in the pursuit of thorough understanding and mastery of knowledge, learning goals are often associated with adaptive learning behavior and can positively affect students' academic effort and persistence. Miller et al. (1993) discovered a significant positive relationship between learning goals and academic persistence. Additionally, ANOVA results reinforced these findings by demonstrating that students oriented toward specific goals exhibited the highest level of academic persistence. Further research by Sideridis (2005)

highlighted the substantial positive impact of adopting an achievement goal approach on middle school students' academic effort, persistence, and commitment. Notably, this approach had a negative influence on anxiety and depression. Previous studies exploring the influence of various goal orientations on learning engagement have consistently indicated that mastery goals and performance approach goals are adaptive, positively correlated with learning engagement. By contrast, performance-avoidance goals have shown a negative correlation with learning engagement (Greene et al., 2004; Ryan & Deci, 2020; Tas, 2016).

Several scholars have uncovered a positive relationship between achievement goal orientation and learning performance. Diseth et al. (2012) discovered that learning goals can positively predict the academic performance of middle school students. Similarly, in the study conducted by Hong et al. in 2018, they discovered that achievement goal orientation not only directly correlates with academic achievement but also indirectly affects it through its influence on academic procrastination and math anxiety. Existing studies have consistently revealed a significant positive correlation between goal-oriented approaches and academic performance. This correlation is attributed to the fact that outstanding academic performance directly reflects an individual's capabilities. This notion was substantiated by Dinger et al. (2013), who identified a significant positive correlation among achievement-approach goals, intrinsic motivation, and academic achievement. Moreover, the research findings of Alhadabi and Karpinski (2020) support the positive correlation between mastery and approach-oriented goals and academic performance while indicating a negative correlation between avoidance-oriented goals and academic performance.

CONCEPTUAL CONNOTATION AND DIMENSION OF LEARNING ENGAGEMENT

The concept of learning engagement, also referred to as student engagement, was initially introduced in the 20th century. This concept encompasses two essential characteristics: first, it involves students' investment of time and effort in learning and other activities. Second, it pertains to how schools allocate resources, structure curricula, and offer additional learning opportunities and services to enhance student engagement, ultimately fostering desired educational outcomes. Shaufeli et al. (2002) pointed out that learning engagement pertains to the attitude that students show enthusiasm for learning and are in a continuous state during learning. Learning engagement is mainly characterized by a high concentration of attention, vitality, and dedication (Shaufeli & Salannova, 2002). Among them, vitality means that learners have abundant energy, are willing to work hard for learning, and are not tired easily; dedication refers to learners' commitment to learning with a strong sense of enthusiasm and daring to accept challenges; concentration is the euphoric state in which the learner is absorbed in learning, usually feeling that time passes quickly.

The definition of learning engagement varies across scholars, each emphasizing different perspectives. From a behavioral perspective, a significant intersection exists between the ideas of learning engagement and the level or quality of effort exerted by individuals. Astin (1984) defined student involvement as the combination of physical and mental energy that students dedicate to their academic activities. Hughes (2008) introduced the concept of effortful engagement, referring to independent input into teaching activities, including traits such as persistence in the face of challenges and a focus on learning tasks. According to Christenson et al. (2012), engagement entails students' active participation in learning activities. Similarly, Hospel and Galand (2016) used the term engagement to describe the level of energy or effort a student dedicates to a learning activity. Hospel and Galand (2016) used engagement to describe the level of energy or effort a student puts into a learning activity.

Marks (2000) regarded learning engagement as a psychological process that encompasses students' attention, interest, active participation, and the energy they invest in the learning

process. In this context, learning engagement is viewed as a multifaceted psychological state intertwined with motivation and interest. Lam et al. (2014) found that learning engagement is a psychological process and a mediating variable in which situational factors affect learning achievement, which is embodied in students' efforts, interests, enjoyment, and total commitment. Johnson and Sinatra (2013) defined learning engagement as the interaction between learners and academic tasks under motivation. Moreover, some scholars provided multifaceted definitions of learning engagement. Shernoff (2013) characterizes student engagement as an intense and immediate focus, involving experiences of interest and pleasure. In this definition, learning engagement is a subjective encounter encompassing emotional and cognitive elements. From another aspect, Dotterer and Lowe (2011) asserted that learning engagement encompasses students' feelings, behaviors, and thoughts within the school experience. These varied definitions highlight the complex nature of learning engagement, incorporating emotional, cognitive, and behavioral dimensions.

Domestic scholars have started delving into research on learning engagement by drawing on the findings of international studies. Scholars such as Wen and Zhong (2023) have utilized Schaufeli's definition as a reference point, analyzing the essence of learning engagement based on Schaufeli's research in their articles. The shared understanding among these scholars has become evident, that is, learning engagement represents a positive, complete, and joyful mental state and emotion. This consensus underscores the fundamental nature of learning engagement, emphasizing its positive and enriching psychological state.

Examining existing research reveals the diverse ways in which the dimensions of learning engagement can be classified. Scholars widely agree that learning engagement is a multidimensional variable encompassing multiple distinct features. Early studies often considered learning engagement in terms of two primary dimensions: behavioral and cognitive engagement. For instance, in Finn's (1989) model, learning engagement is divided into behavioral and emotional engagement, highlighting the intricate and multifaceted nature of this concept. These multiple dimensions underscore the complexity of learning engagement, encompassing various aspects of students' involvement and experiences in the learning process. Among them, behavioral engagement reflects participation in class and school activities, whereas emotional engagement reflects school identity, belonging, and learning value. Connell, Spencer, and Aber (1994), in their self-system process model, noted that learning engagement includes two dimensions: ongoing engagement and reaction to challenge.

With the development of research, scholars gradually accept the three-dimensional division of learning input. Fredricks et al. (2004) proposed that the three-dimensional division of behavioral, emotional, and cognitive input is a kind of dimensional division generally recognized by scholars. Behavioral engagement pertains to the amount of time and effort a student invests in academic tasks, encompassing activities such as attending classes, paying attention, completing assignments, asking questions, and participating in extracurricular activities. Emotional engagement involves students' positive emotional responses to school, encompassing feelings of belonging, identity, learning interest, attitude, and values. Cognitive engagement reflects the cognitive activity within the learning process, indicating students' psychological investment and effort in understanding, mastering knowledge, and acquiring skills. Cognitive engagement can specifically involve aspects such as self-regulated learning and the use of cognitive strategies. Many researchers, including Lam et al. (2014), Hospel and Galand (2016), and Liu et al. (2022), have adopted Fredricks' division of learning engagement dimensions in their empirical studies, underscoring its widespread acceptance in research contexts.

Based on the three-dimensional division, some scholars proposed other dimensions of learning engagement. Reeve and Tseng (2011) proposed a fourth dimension of learning engagement is Agentic engagement, which refers to the efforts made by students for the smooth

development of teaching, such as asking questions, providing suggestions, and putting forward opinions. Other than the three kinds of learning engagement proposed by Fredricks et al. (2004), RimmKaufman et al. (2015) also considered social engagement, defining social engagement as daily communication among peers with teaching content as the topic. From a multi-dimensional perspective, although each dimension of learning engagement is conceptually distinct from each other, it is not a mutually exclusive relationship but a mutually integrated one.

RESEARCH RELATED TO LEARNING ENGAGEMENT

Fredricks et al. (2004) and Christenson et al. (2012) asserted that learning engagement is a variable state significantly influenced by the learning environment. Reyes et al. (2012) focused on the impact of classroom emotional climate (CEC) on learning engagement and academic achievement. CEC refers to the emotional interactions and support between teachers and students and among students within the classroom setting. Their findings revealed that, even after accounting for teacher background characteristics, classroom organization, and teaching support, the emotional climate in the classroom enhanced students' learning engagement. Learning engagement, in turn, mediated the relationship between CEC and students' academic achievement.

Wang and Eccles (2013) investigated the interplay between perceptions of the school environment, achievement motivation, and school learning engagement (including behavioral, emotional, and cognitive engagement). The study demonstrated that various aspects of the perceived school environment influenced students' achievement motivation, subsequently affecting different types of learning engagement. Achievement motivation played a mediating role in the relationship between environment perception and learning engagement.

Tas (2016) explored the impact of the perceived classroom learning environment (comprising teacher support, student cohesion, and teacher equity) and learning motivation on students' learning engagement in the Turkish education context. The results indicated that most learning environment variables significantly and positively influenced learning engagement. Shernoff, Ruzek, and Sinha (2017) found that the environmental support dimension of the learning environment positively influenced learning engagement, which in turn positively affected perceptual learning. Learning engagement mediated the relationship between the learning environment and students' learning experiences.

Chinese scholars Li et al. (2023) investigated the influence of blended teaching environments on college students' learning engagement. Their findings demonstrated that blended teaching positively impacted learning engagement and significantly increased students' interest in learning.

Considering these research outcomes, the perceived learning environment directly affects learning engagement and indirectly influences it through variables related to achievement motivation. These studies highlighted the intricate relationship among the learning environment, students' motivation, and their engagement in the learning process.

RELATIONSHIP BETWEEN TEACHER SUPPORT AND LEARNING ENGAGEMENT

Research on teacher support and learning engagement highlighted the interplay between environmental and individual factors in shaping students' learning behaviors (Liu, 2022). Perceived teacher support is a crucial variable in this dynamic. Chiu (2021) emphasized the pivotal role of teacher support in motivating student participation in school activities. Tas (2016) and Wang and Zhao (2022) found that teacher support positively influences learning

engagement. Ji et al. (2023) also confirmed that teacher support predicts learning engagement positively. However, in this study, teacher support is viewed as a multi-dimensional variable, categorized into three dimensions: autonomous, emotional, and competence support, based on self-determination theory (SDT). The following literature review delves into these three dimensions.

Teacher autonomy support refers to recognizing students as individuals capable of decision-making, respecting their independent choices, and aligning teaching with their interests, which is essential for motivating learning (Aelterman et al., 2019). Melchor and Jose (2019) analyzed how perceived teacher autonomy support predicted college students' academic achievement, mediated by academic self-efficacy and school engagement. The results indicated that teacher autonomy support directly impacts students' engagement, which, in turn, influences academic achievement. Ryo (2023) explored how perceived teacher autonomy support affects higher education students' academic performance and learning motivation. The study revealed significant effects of teachers' independent support and learning engagement. Research has demonstrated that supportive teaching focusing on autonomy contributes to higher education students' academic success. Chinese scholar Wang et al. (2023) investigated the mechanism through which teacher autonomy support influences college students' learning engagement and classroom gains. The results indicated that perceived teacher autonomy support significantly enhances students' behavioral, cognitive, and emotional engagement. Moreover, learning engagement mediates the relationship between perceived teacher autonomy support and classroom learning outcomes. These findings collectively emphasize that teachers' autonomous support positively impacts students' learning engagement.

Teachers' emotional support can meet students' relational needs and help build a harmonious teacher–student relationship, thereby promoting students' active participation in classroom activities (Yang et al., 2021). Previous empirical studies have also confirmed the key role of teachers' emotional support in promoting students' learning engagement in different learning contexts. Yang et al. (2021) proved that teachers' emotional support directly predicted Chinese primary and secondary school students' mathematical behavioral engagement.

Teacher competence support is the ability of teachers to set clear expectations for students, provide guidance and help, and give feedback on academic performance (Chen& Lu, 2021). Teacher competence support is considered structural support (Lietaert et al., 2015), directly corresponding to the students' abilities. Competence-supportive teachers play a pivotal role in fostering students' engagement by providing clear expectations (Ji, 2023). This includes offering supportive information, setting precise task expectations, offering unexpected rewards, and delivering positive and constructive feedback (Aslam & Khan, 2020). Gentrup et al. (2020) highlighted that teachers' academic expectations significantly enhance students' academic efforts. Teachers often employ scaffolding methods in their teaching to enhance student learning outcomes (Chiu & Lim, 2020). Moreover, Hospel and Galand (2016) conducted a study examining the combined effects of teacher autonomy and structural support on student engagement in learning. Their findings revealed that structural support significantly enhances behavioral engagement, self-regulated cognitive engagement, and positive affective engagement. These studies highlighted the vital role of teachers' competence support in promoting various dimensions of student engagement. Moreover, Granziera et al. (2022) found that tangible help from teachers can increase students' engagement in persistence, school belonging, and effort.

In summary, students' learning engagement is positively influenced by the three dimensions of teacher support: autonomy, emotional, and competence support.

RELATIONSHIP BETWEEN ACHIEVEMENT GOAL ORIENTATION AND LEARNING ENGAGEMENT

Achievement goal orientation refers to an individual's cognitive understanding of the purpose and rationale behind their achievement tasks (Zhang, 2020), which clarifies the reasons underlying one's achievement-related actions (Ames, 1992). Previous research has extensively explored the impact of achievement goals on learning engagement. He (2020) argued that achievement goal orientation and goal-setting theories inherently embody the principle that "goals shape behavior," making the influence of achievement goal orientation on learning engagement inevitable. Empirical investigations conducted by He (2020) demonstrated a significant positive predictive relationship between achievement goal orientation and learning engagement.

Furthermore, past studies have delved into the influence of the three dimensions of achievement goal orientation on learning engagement, revealing distinct effects of different types of achievement goal orientation (An & Du, 2023). Specifically, the findings indicate that students with mastery and performance-approach goals exhibit high levels of cognitive, emotional, and behavioral engagement in learning activities, whereas performance-avoidance goals are associated with the least engagement (Ryan & Deci, 2020). In their research, Tu and Yang (2021) discovered that performance-approach and mastery goals significantly and positively predicted middle school students' engagement in math learning, whereas performance-avoidance goals did not exhibit statistical significance in predicting middle school students' math learning engagement. An and Du (2023) constructed a mediation model, revealing that the mastery goal of secondary vocational students directly and positively predicts learning engagement, whereas the direct predictive impact of performance-approach and performance-avoidance goals is insignificant. Wen and Zhong (2023) explored the influence of achievement goal orientation on high school students' learning engagement and its underlying mechanisms. Their results indicated that the mastery goal has a positive effect on learning engagement, whereas performance-approach and performance-avoidance goals do not significantly influence learning engagement. Through the mediating pathways of learning strategy and academic self-efficacy, the mastery and performance-approach goals positively affect learning engagement, whereas the performance-avoidance goal negatively affects learning engagement.

RELATIONSHIP BETWEEN TEACHER SUPPORT AND ACHIEVEMENT GOAL ORIENTATION

A comprehensive review of existing literature showed that students' perceived teacher support significantly influences their achievement goal orientation (Jia et al., 2020; Vansteenkiste et al., 2004). According to the SDT (Deci & Ryan, 2004), students' perception of supportive behaviors in learning environments, including social and teacher support, fulfills their fundamental psychological needs, such as autonomy, competence, and relatedness. When these basic needs are satisfied, positive autonomous learning motivation is generated. Notably, studies have demonstrated the impact of teacher support on students' achievement goal orientation. Vansteenkiste et al. (2004) contended that teacher autonomy support enhances students' self-regulation and psychological adjustment. Furthermore, an interaction exists between students' goal orientation and the type of teacher support. Different goal orientations result in varied responses to teacher support.

Empirical studies consistently showed that teacher support positively predicts students' mastery and performance-approach goals while having a negative impact on their performance-avoidance goals. For example, Diseth and Samdal (2014) used SDT and demonstrated that tangible support from teachers fulfills students' autonomy and relatedness needs, leading to the adoption of mastery and performance-approach goals. In a study involving Chinese primary

school students, Yang et al. (2016) found that teachers' caring behaviors in educational contexts inclined students toward adopting a mastery goal orientation. The research demonstrated that teachers' responsible and supportive behavior positively predicts students' mastery goals but negatively influences students' performance-avoidance goals. Another study identified a significant positive correlation between perceived teacher support and mastery goals and performance-approach goals, coupled with a notable negative correlation with performance-avoidance goals (Jia et al., 2020).

RELATIONSHIP AMONG TEACHER SUPPORT, ACHIEVEMENT GOAL ORIENTATION, AND LEARNING ENGAGEMENT

Although numerous studies have established the predictive relationship between perceived teacher support and learning engagement (Melchor and Jose, 2019; Ji et al., 2023), research exploring its internal mechanisms is relatively scarce. Among the proximal factors influencing learning engagement, achievement motivation stands out as a crucial factor capable of directly predicting students' level of engagement (Tas et al., 2019). The theory of achievement goal orientation is widely recognized in the field of education as a pivotal motivational framework. Previous research has demonstrated that teacher support significantly influences achievement goal orientation (Jia et al., 2020; Vansteenkiste et al., 2004), which, in turn, impacts learning engagement (He, 2020).

Considering the resemblance between the differentiation of intrinsic motivation and extrinsic motivation in SDT and the differentiation between mastery and performance goals in achievement goal orientation (Diseth & Samdal, 2014), teacher support leads to students' motivational behaviors, promoting mastery or performance goals. This case will influence students' engagement (Jiang & Zhang, 2021). For instance, Sheldon et al. (2004) explored the influence of goal content and motivation on happiness and found that a perceived supportive environment, such as teacher support, can affect learning behavior (i.e., engagement) by influencing students; mastery approach and performance approach goal orientation. In another research endeavor, Jia et al. (2020) surveyed 498 high school students to explore how perceived teacher support impacts learning engagement, considering the mediating roles of academic self-efficacy and achievement goal orientation. Their results indicated that perceived teacher support indirectly influences high school students' learning engagement, mediated through mastery, performance-approach, and performance-avoidance goals. Additionally, Liu et al. (2022) examined 466 Chinese college English learners to explore the relationship between teacher support and English learning achievement. They investigated the potential mechanisms through which teacher support affects English learning achievement, considering self-efficacy and achievement goal orientation as mediating variables. Their results indicated that teacher academic support predicts learning ability through the independent mediating effects of mastery and performance-approach goals. However, emotional support can only predict learning ability through mastery goals.

Based on previous research, this study posits that achievement goal orientation plays a mediating role between teacher support and student learning engagement. This research assumes that achievement goal orientation plays a part in the mediating role between teacher support and student learning engagement. This research hopes to improve vocational university students' learning engagement and provide a theoretical reference to promote academic development and quality by exploring the relationship among the three, constructing a structural equation model among the three.

CONCLUSION

This study examines the literature regarding achievement goal orientation as a mediating factor, exploring its impact on the relationship between teacher support and learning engagement. In the learning environment of vocational universities, teachers hold a central role as the most significant social influence on students. Their responsibilities extend beyond classroom teaching to the development and coordination of extracurricular activities. Student learning motivation and engagement are integral to effective learning and subtly influence academic performance. Hence, investigating learner engagement as a crucial criterion for enhancing quality receives a growing emphasis. Understanding the internal mechanisms that promote students' learning engagement is critical for fostering academic achievement and personal growth.

REFERENCES

Aelterman, N., Vansteenkiste, M., Haerens, L., Soenens, B., Fontaine, J. R. J., & Reeve, J. (2019). Toward an integrative and fine-grained insight in motivating and demotivating teaching styles: The merits of a circumplex approach. *Journal of Educational Psychology,* 111(3), 497–521. https://doi.org/10.1037/edu0000293

Ahmed W., Minnaert A., Werf G. V. D., Kuyper H. (2010). Perceived social support and early adolescents' achievement: The mediational roles of motivational beliefs and emotions. *Journal of Youth and Adolescence,* 39(1), 36-46.

Alhadabi, A., Karpinski, A. C. (2020). Grit, self-efficacy, achievement orientation goals, and academic performance in University students. *International Journal of Adolescence and Youth,* 25(1), 519-535. https://doi.org/10.1080/02673843.2019.1679202

Alrajeh, T. S., & Shindel, B. W. (2020). Student Engagement and Math Teachers Support. *Journal on Mathematics Education,* 11(2), 167–180. https://doi.org/10.22342/jme.11.2.10282.167-180

Ames C. (1992). Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology,* 84(3), 261-271.

An, F., Yu, J., & Xi, L. (2022). Relationship between perceived teacher support and learning engagement among adolescents: Mediation role of technology acceptance and learning motivation. *Frontiers in Psychology,* 13, 992464. https://doi.org/10.3389/fpsyg.2022.992464

An, R., & Du, W. (2023). Effect sand Mechanism of Achievement Goal Orientations on the Learning Engagement of Secondary Vocational Students. Chinese Journal of Chemical Education, 44(18), 93-101. https://doi.org/10.13884/j.1003-3807hxjy.2022070252

Assor A., Kaplan H., Roth G. (2002). Choice is good, but relevance is excellent: Autonomy-enhancing and suppressing teacher behaviours predicting students' engagement in schoolwork. *British Journal of Educational Psychology,* 72(2), 261-278.

Astin A. W. (1984). Student involvement: A developmental theory for higher education. *Journal of College Student Personnel,* 25: 297-308.

Baker J. A., Dilly L. J., Aupperlee J. L., Patil S. A. (2003). The developmental context of school satisfaction: Schools as psychologically healthy environments. *School Psychology Quarterly,* 18(18): 206-221.

Brewster A. B., Bowen G. L. (2004). Teacher support and the school engagement of Latino middle and high school students at risk of school failure. *Child and Adolescent Social Work Journal,* 21(1), 47-67.

Borah, M. (2021). Motivation in learning. *Journal of critical reviews,* 8(02), 550-552.

Chen Fengzhi, Lu Xiaotao. (2021). The Influence of Teacher Support on the Learning Engagement of Migrant Children: The Mediating Role of Psychological Capital and the Moderating Role of Intrinsic Motivation. *Journal of Gannan Normal University,* 5, 111-

117.
Chiu, T. K. (2021). Digital support for student engagement in blended learning based on self-determination theory. *Computers in Human Behavior,* 124, 106909. https://doi.org/10.1016/j.chb.2021.106909
Chiu T. K., Lin T. J., & Lonka K. (2021). Motivating Online Learning: The Challenges of COVID-19 and Beyond. *The Asia-Pacific Education Researcher*, *30*(3), 187–190. https://doi.org/10.1007/s40299-021-00566-w
Chiu, T. K. F., & Lim, C. P. (2020). Strategic use of technology for inclusive education in Hong Kong: A content-level perspective. *ECNU Review of Education,* 3(4), 715–734. https://doi.org/10.1177/2096531120930861
Christenson S. L., Reschly A. L., Wylie C. (2012). Handbook of Research on Student Engagement. US, Boston, MA: Springer.
Connell, J. P., & Wellborn, J. G. (1991). Competence, autonomy, and relatedness: A motivational analysis of
self-system processes. In M. R. Gunnar & L. A. Sroufe (Eds.), Self processes and development (pp. 43-
77). Lawrence Erlbaum Associates, Inc.
Connell, J. P., Spencer, M. B., & Aber, J. L. (1994). Educational risk and resilience in African-American youth:
Context, self, action, and outcomes in school. *Child development,* 65(2), 493-506.
Cui Shuqi, Yao Congli. (2023). Internal Logic, Target Location and Implementation Path of Tatent Training in Undergraducate Vocational Education. *Modern Education Management*, 4, 97-107.
Danielsen A. G., Wiium N., Wilhelmsen B. U., Wold B. Perceived support provided by teachers and classmates and students' self-reported academic initiative. (2010). *Journal of School Psychology,* 48(3), 247-267.
Deci E L, Ryan R M. (2004). Intrinsic Motivation and Self-Determination in Human Behavior. *Encyclopedia of Applied Psychology,* 3(2):437-448.
Deng Xiaohua. (2021). To explore the functional orientation of vocational college. *Chinese Vocational and Technical Education,* 30, 5–12.
Diseth A., Danielsen A. G., Samdal O. (2012). A path analysis of basic need support, self-efficacy, achievement goals, life satisfaction and academic achievement level among secondary school students. *Educational Psychology,* 32(3) 335-354.
Diseth Å., Kobbeltvedt T. (2010). A mediation analysis of achievement motives, goals, learning strategies, and academic achievement. *British Journal of Educational Psychology,* 80(4), 671–687.
Dotterer A. M., Lowe K. (2011). Classroom context, school engagement, and academic achievement in early adolescence. *Journal of Youth and Adolescence,* 40(12), 1649-1660.
Elliot A. J. (1999). Approach and avoidance motivation and achievement goals. *Educational psychologist,* 34(3), 169–189.
Elliot A. J., Church M. A. (1997). A hierarchical model of approach and avoidance achievement motivation. *Journal of personality and social psychology,* 72(1): 218-232.
Elliot A. J., Harackiewicz J. M.(1996). Approach and avoidance achievement goals and intrinsic motivation: A mediational analysis. *Journal of Personality and Social Psychology,* 70(3): 461-475.
Elliot A. J., Mcgregor H. A.(2001). A 2×2 achievement goal framework. *Journal of Personality and Social Psychology,* 80(3), 501-519.
Elliot, A. J., Murayama, K., & Pekrun, R. (2011). A 3 × 2 achievement goal model. Journal of Educational Psychology, 103(3), 632–648. https://doi.org/10.1037/a0023952

Elliott E. S., Dweck C. S. (1988). Goals: An approach to motivation and achievement. *Journal of Personality and Social Psychology,* 54(1), 5-12.

Fang Zeqiang, Liang Weiying, Li Xuan. (2023). Practical Thinking of Vocational Undergraduate Colleges' High-Quality Development. *Higher Vocational Education Exploration,* 22(2), 20-26.

Ferrell A.(2012). Classroom social environments, motivational beliefs, and student engagement. USA: Unpublished doctoral dissertation, University of Southern California.

Fraser B. J., Fisher D. L., McRobbie C. J. (1996). Development, validation, and use of personal and class forms of a new classroom environment instrument. *Paper presented at the annual meeting of the American Educational Research Association.* New York.

Fredricks, J. A., Parr, A. K., Amemiya, J. L., Wang, M. -T., & Brauer, S. (2019). What matters for urban adolescents' engagement and disengagement in school: A mixed-methods study. *Journal of Adolescent Research,* 34(5), 491–527. https://doi.org/10.1177/0743558419830638

Gentrup, S., Lorenz, G., Kristen, C., & Kogan, I. (2020). Self-fulfilling prophecies in the classroom: Teacher expectations, teacher feedback and student achievement. Learning and Instruction, 66, 101296. https://doi.org/10.1016/j.learninstruc.2019.101296

Goodenow C. (1993). Classroom belonging among early adolescent students: relationships to motivation achievement. *Journal of Early Adolescence,* 13(1),21-43.

Greene B. A., Miller R. B., Crowson H. M., Duke B. L., Akey K. L. (2004). Predicting high school students' cognitive engagement and achievement: Contributions of classroom perceptions and motivation. *Contemporary Educational Psychology,* 29(4), 462-482.

Gregory A., Weinstein R. S. (2004). Connection and regulation at home and in school: Predicting growth in achievement for adolescents. *Journal of Adolescent Research,* 19(4), 405-427.

Guo Z. (2015). Social Statistical Analysis Method - SPSS Software Application (Second

Hanaysha, J. R., Shriedeh, F. B., In'airat, M. (2023). Impact of classroom environment, teacher competency, information and communication technology resources, and university facilities on student engagement and academic performance. *International Journal of Information Management Data Insights,* 3 (2023), 100188. https://doi.org/10.1016/j.jjimei.2023.100188

He, C. M. (2020). Process assessment, achievement goal orientation and learning engagement: Mechanisms and Pathways. *Higher Education Exploration,* (11), 36-46.

Hong, Y., Chen, S., Zhang, Y., Chen, Y., Liu, Y., Yi, L., et al. (2018). Rapid identification of soil organic matter level via visible and near-infrared spectroscopy: effects of two-dimensional correlation coefficient and extreme learning machine. *Sci. Total Environ.* 644, 1232–1243. https://doi.org/10.1016/j.scitotenv.2018.06.319

Hong Wei, Liu Rude, Zhen Rui. (2018). The relationship between achievement goal orientation and primary school students' engagement in math learning: the mediating role of academic procrastination and math anxiety. *Psychological Development and Education,* 34 (2), 191-199.

Hospel V., Galand B. (2016). Are both classroom autonomy support and structure equally important for students' engagement? A multilevel analysis. *Learning and Instruction,* 41, 1-10.

Hughes J. N., Luo W., Kwok O. M., Loyd L. K.(2008). Teacher–student support, effortful engagement, and achievement: A 3-year longitudinal study. *Journal of Educational Psychology,* 100(1): 1-14.

Jia Xuji, Cai Lin, Lin Lin, Lin Chongde. (2020). The Relationship between Perceived Teachers'Support and Academic Engagement among High School Students: The Chain

Mediating Effect of Academic Self-efficacy and Achievement Goal Orientation. *Journal of Psychological Development and Education,* 36(6), 700-707.

Jiang, A. L., & Zhang, L. J. (2021). University teachers' teaching style and their students' agentic engagement in EFL learning in China: A self-determination theory and achievement goal theory integrated perspective. *Frontiers in Psychology,* 12, 704269. https://doi.org/10.3389/fpsyg.2021.704269

Johnson M. L., Sinatra G. M. (2013). Use of task-value instructional inductions for facilitating engagement and conceptual change. *Contemporary Educational Psychology,* 38(1), 51-63.

Lam S. F., Jimerson S., Wong B. P. H., Kikas E., & Shin H. (2014). Understanding and measuring student engagement in school: The results of an international study from 12 countries. *School Psychology Quarterly,* 29(2), 213-232.

Lam, Y. W., Hew, T. K. F., & Chiu, T. K. F. (2018). Improving Hong Kong secondary school students' argumentative writing: Effects of a blended learning approachand gamificati on. *Language, Learning and Technology,* 22(1), 97-118. https://dx.doi.org/10125/44583

Lei, H., Cui, Y. H., & Chiu, M. M. (2018). The Relationship between Teacher Support and Students' Academic Emotions: A Meta-Analysis. *Frontiers in Psychology,* 8, 2288. DOI:10.3389/fpsyg.2017.02288

Li, F., Ao, B., Chen, K. X., & Xie, X. L. (2023). Research on Effect of Blended Teaching to Improve College Students' Learning Engagement. *Theoretical Research and Practice of Innovation and Entrepreneurship*, 5, 145-148.

Li, W., Gao, W., & Sha, J. (2020). Perceived teacher autonomy support and school engagement of Tibetan students in elementary and middle schools: Mediating effect of self-efficacy and academic emotions. *Frontiers in Psychology,* 11. https://doi.org/10.3389/fpsyg.2020.00050

Lietaert, S., Roorda, D., Laevers, F., Verschueren, K., & De Fraine, B. (2015). The gender gap in student engagement: The role of teachers' autonomy support, structure, and involvement. *British Journal of Educational Psychology,* 85(4), 498–518. https://doi.org/10.1111/bjep.12095

Liu Ru-De; Zhen Rui; Ding Yi; Liu Ying; Wang Jia; Jiang Ronghuan; Xu Le (2017). Teacher support and math engagement: roles of academic self-efficacy and positive emotions. Educational Psychology, 38(1), 3-16. https://doi.org/10.1080/01443410.2017.1359238

Liu, Q., Du, X., Lu, H. Y. (2022). Teacher support and learning engagement of EFL learners: The mediating role of self-efcacy and achievement goal orientation. *Current Psychology,* 42, 2619–2635. https://doi.org/10.1007/s12144-022-04043-5

Liu Yi (2022). Heterogeneous Thinking under Homogenization: Vocational Undergraduate University and General Undergraduate University. *Journal of Hunan Industry Polytechnic,* 22(2), 49-53.

Liu Yuan; Hau Kit-Tai; Liu Hongyun; Wu Jing; Wang Xiaofang; Zheng Xin (2019). Multiplicative effect of intrinsic and extrinsic motivation on academic performance: A longitudinal study of Chinese students. *Journal of Personality,* 3(88), 584-595. https://doi.org/10.1111/jopy.12512.

Liu Zaihua. (2021). The Effect of Achievement Goal Orientation on The Learning Engagement of Students with Hearing Impairment. *Chinese Journal of Special Education,* 1, 37-43.

Lowe, N. K. (2019). What is a pilot study?. *Journal of Obstetric, Gynecologic & Neonatal Nursing,* 48(2), 117-118.

Malecki C. K., Demaray M. K.(2003). What type of support do they need? Investigating student adjustment as related to emotional, informational, appraisal, and instrumental support. *School Psychology Quarterly,* 18(3), 231-252.

Miller R. B., Behrens J. T., Greene B. A., Newman D. (1993). Goals and perceived ability: Impact on student valuing, self-regulation, and persistence. *Contemporary Educational Psychology,* 18(1), 2-14.

Ministry of Education of the People's Republic of China. (2023, February). http://www.moe.gov.cn/jyb_xwfb/s5147/202302/t20230213_1044142.html

Ministry of Education of the People's Republic of China. (2023, March). http://www.moe.gov.cn/fbh/live/2023/55167/sfcl/202303/t20230323_1052203.html

Ministry of Education of the People's Republic of China. (2022, May). http://www.moe.gov.cn/fbh/live/2022/54453/mtbd/202205/t20220518_628488.html

Ministry of Education of the People's Republic of China. (2022, March). http://www.moe.gov.cn/jyb_xwfb/s5148/202203/t20220328_611285.html

Ministry of Education of the People's Republic of China. (2020). http://www.moe.gov.cn/jyb_sjzl/s5990/202008/t20200831_483697.html

Ministry of Education of the People's Republic of China. (2021). http://www.moe.gov.cn/jyb_xxgk/moe_1777/moe_1778/202110/t20211012_571737.html

Mitchell S., DellaMattera J. Teacher support and student's self-efficacy beliefs. (2011). *Journal of Contemporary Issues in Education,* 5(2), 24-35.

Newman R. S., Schwager M. T. (1993). Students' perceptions of the teacher and classmates in relation to reported help seeking in math class. *The Elementary School Journal,* 94(1), 3-17.

Ouyang Dan.(2005). Teacher expectation, academic self-concept and students' perception of teacher support behavior. Master Thesis, Guangxi Normal University.

Patrick H., Anderman L. H., Ryan A. M. (2002). Social motivation and the classroom social environment. In C. Midgley, (ed.), Goals, goal structures, and patterns of adaptive learning Malwah, NJ: Lawrence Erlbaum Associates.

Patrick H., Ryan A. M., Kaplan A. (2007). Early adolescents' perceptions of the classroom social environment, motivational beliefs, and engagement. *Journal of Educational Psychology*, 99(1), 83-98.

Pekrun, R., Elliot, A. J., Maier, M. A. (2009). Achievement goals and achievement emotions: Testing a model of their joint relations with academic performance. *Journal of Educational Psychology,* 101(1), 115–135. https://doi.org/10.1037/a0013383

Pintrich, P. R. (2000). Multiple goals, multiple pathways: The role of goal orientation in learning and achievement. *Journal of educational psychology,* 92(3), 544-555. https://doi.org/10.1037/0022-0663.92.3.544

Reeve J., Tseng C. M. (2011). Agency as a fourth aspect of students' engagement during learning activities. *Contemporary Educational Psychology,* 36(4), 257-267.

Reyes M. R., Brackett M. A., Rivers S. E., White M., Salovey P. (2012). Classroom emotional climate, student engagement, and academic achievement. *Journal of Educational Psychology,* 104(3), 700-712.

Ricard N. C., Pelletier L. G. (2016). Dropping out of high school: The role of parent and teacher self-determination support, reciprocal friendships and academic motivation. *Contemporary Educational Psychology,* 44(45), 32-40.

Rimmkaufman S. E., Baroody A. E., Larsen R. A. A., Curby T. W., Abry T. (2015). To what extent do teacher–student interaction quality and student gender contribute to fifth graders' engagement in mathematics learning. *Journal of Educational Psychology,* 107(1), 170-185.

Ryan A. M., Gheen M., Midgley C.(1998). Why do some students avoid asking forhelp? An examination of the interplay among students' academic efficacy, teachers' social–emotional role, and the classroom goal structure. *Journal of Educational Psychology,*

90(3), 528-535.
Ryan A. M., Patrick H.(2001). The classroom social environment and changes in adolescents' motivation and engagement during middle school. *American Educational Research Journal*, 38(2), 437-460.
Ryan, R.M., & Deci, E.L. (2017). Self-determination theory: Basic psychological needs in motivation, development, and wellness. Guilford Publications.
Ryan, R.M., & Deci, E.L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary Educational Psychology, 61, 101860*. https://doi.org/10.1016/j.cedpsych.2020.101860
Ryan, R. M., & Grolnick, W. S. (1986). Origins and pawns in the classroom: Self-report and projective assessments of children's perceptions. *Journal of Personality and Social Psychology,* 50(3), 550–558.
Ryan, R. M., Ryan, W. S., Di Domenico, S. I., & Deci, E. L. (2019). The nature and the conditions of human autonomy and flourishing: Self-determination theory and basic psychological needs. In R. M. Ryan (Ed.). The Oxford handbook of human motivation (pp. 89–110). (2nd ed.). New York, NY: Oxford University Press.
Schaufeli, W. B.; Martinez, I. M.; Pinto, A. M.; Salanova, M.; Bakker, A. B. (2002). Burnout and Engagement in University Students: A Cross-National Study. *Journal of Cross-Cultural Psychology,* 33(5), 464–481. https://doi.org/10.1177/0022022102033005003
Schaufeli, W. B., Salanova, M., González-romá, V., Bakker, A. B. (2002). The Measurement of Engagement and Burnout: A Two Sample Confirmatory Factor Analytic Approach. *Journal of Happiness Studies,* 3(1), 71–92. https://doi.org/10.1023/a:1015630930326
Schweder, S., Raufelder, D. (2019). Positive emotions, learning behavior and teacher support in self-directed learning during adolescence: Do age and gender matter? *Journal of Adolescence,* 73, 73-84. https://doi.org/10.1016/j.adolescence.2019.04.004.
Sha Jingrong, Kan Zhaocao, Li Wei. (2020). An Empirical Research on the Improvement of College Students' School Engagement by Teachers' Support Strategies in Blended Learning Environment. *Education Resource and Technology*, 403, 127-133.
Sheldon, K. M., Ryan, R. M., Deci, E. L., & Kasser, T. (2004). The independent effects of goal contents and motives on well-being: It's both what you pursue and why you pursue it. *Personality and social psychology bulletin,* 30(4), 475-486.
Shen B., Li W., Sun H., Rukavina P. B. (2010). The influence of inadequate teacher-to-student social support on amotivation of physical education students. *Journal of Teaching in Physical Education,* 29(4), 417-432.
Shernoff D. J.(2013). Optimal learning environments to promote student engagement. New York, NY: Springer.
Sideridis G. D. (2005). Goal orientation, academic achievement, and depression: Evidence in favor of a revised goal theory framework. *Journal of Educational Psychology,* 97(3), 366-375.
Sinatra G. M., Heddy B. C., Lombardi D. (2015). The Challenges of Defining and Measuring Student Engagement in Science. *Educational Psychologist,* 50(1), 1-13.
Skinner E. A., Belmont M. J. (1993). Motivation in the classroom: Reciprocal effects of teacher behavior and student engagement across the school year. *Journal of Educational Psychology,* 85(4): 571-581.
Tas, Y. (2016). The contribution of perceived classroom learning environment and motivation to student engagement in science. *European Journal of Psychology of Education,* 31, 557–577. https://doi.org/10.1007/s10212-016-0303-z
Tas, Y., Subaşı, M., & Yerdelen, S. (2019). The role of motivation between perceived teacher support and student engagement in science class. *Educational Studies,* 45(5), 582-592. https://doi.org/10.1080/03055698.2018.1509778

The State Council (2019). Notice of The State Council on Issuing and distributing the Implementation Plan for the National Vocational Education Reform. *Bulletin of The State Council of the People's Republic of China*, 2019 (6),9-16.

The State Council The People's Republic of China. (2022, December). http://www.gov.cn/zhengce/2022-12/21/content_5732986.htm

Trickett E. J., Moos R. H. (1973). Social environment of junior high and high school classrooms. *Journal of Educational Psychology,* 65(1), 93-102.

Tu Xiqian, Yang Xinrong. (2021). The relationship between middle school students' achievement goal orientation and mathematics learning engagement--The mediating role of math anxiety. *Journal of Southwest University,* 43(4), 27-35.

UNESCO. (2020). Education: From disruption to recovery UNESCO. Retrieved May 24, 2020, from https://en. unesco.org/covid19/educationresponse

Vansteenkiste, M., Simons, J., Lens, W., Sheldon, K. M., & Deci, E. L. (2004). Motivating Learning, Performance, and Persistence: The Synergistic Effects of Intrinsic Goal Contents and Autonomy-Supportive Contexts. *Journal of Personality and Social Psychology,* 87(2), 246–260. https://doi.org/10.1037/0022-3514.87.2.246

Wang Chengren.(2021). The relationship between academic perseverance, learning engagement, teacher support and academic achievement of junior high school students. *Mental Health Education in Primary and Secondary Schools,* 31, 13-17.

Wang Guoxia, Zhao Yang.(2022). A Meta-analysis about Teacher Autonomy-support and Student Academic Achievement: The Mediation of Psychological Need Satisfaction, Motivation and Engagement. *Psychological Development and Education,* 38(3), 380-390.

Wang, H.L., Yuan, T. T., & Jiao, Y. C. (2023). The influence mechanism of teacher autonomy support on college students' classroom learning harvest: the mediating role of classroom learning engagement. *China Adult Education,* 13, 32-39.

Wang M. T., Eccles J. S. (2013). School context, achievement motivation, and academic engagement: A longitudinal study of school engagement using a multidimensional perspective. *Learning and Instruction,* 28(3), 12–23.

Wang Xining, QI Zhenguo. (2021). Review of Learner Engagement: Literature Analysis Based on CNKI Database. *Invention and Innovation (Vocational Education)*, (04), 162-163.

Wang Yunhan; ShiI Zhongjun; Hu Qiong. (2021). Research on Students' Intrinsic Motivation of Practical Course Learning of Flipped Classroom: Based on the Self-determination Theory. *Software,* 42(3), 175-179. https://doi.org/10.3969/j.issn.1003-6970.2021.03.051

Wellborn J. G. (1991). Engaged and disaffected action: The conceptualization and measurement of motivation in the academic domain. Rochester, University of Rochester.

Wen Juan, Zhong Jianjun. (2023). The Relationship between Achievement Goal Orientation and Learning Engagement: The Mediating Role of Learning Strategies and Academic Self-efficacy. *Mental Health Education in Primary and Secondary* Schools, 08, 4-9.

Wentzel K. R.(1997). Student motivation in middle school: The role of perceived pedagogical caring. *Journal of Educational Psychology,* 89(3), 411-419.

Wentzel K. R., Battle A., Russell S. L., Looney L. B. (2010). Social supports from teachers and peers as predictors of academic and social motivation. *Contemporary Educational Psychology,* 35(3), 193-202.

Wentzel K. R., Muenks K., Mcneish D., Russell S. (2017). Peer and teacher supports in relation to motivation and effort: A multi-level study. *Contemporary Educational Psychology*, 49, 32-45.

Wu, S. Y., Li, L., Wu, W. W., Chen, X. J., Shi, X. Y., Shen, D. M., & Li, J. (2023). The Mediating Effect of Academic Self-Efficacy on the Relationship between College Students'

Emotion Management Ability and Learning Engagement. *Health Vocational Education,* 41(9), 120-124.

Xi, J. (2021). The infuence of teacher emotional support on students' emotional engagement under synchronous online teaching model environment. *Journal of Higher Education,* 34, 136-140.

Yang, S. G. (2021). Thoughts on accelerating the construction of first-class undergraduate majors——taking Finance major as an example. *Chinese University Teaching,* 8, 35-41.

Yang Tao, Yu Meng, Zhenya Gao, Xiangdong Yang (2022). Perceived teacher support, student engagement, and academic achievement: a meta-analysis, *Educational Psychology,* 42(4), 401–420. https://doi.org/10.1080/01443410.2022.2033168

Yang Xiao. (2021). Study on the Influence and Intervention of Primary School Teachers' Creative Teaching Behaviors and Teachers' Learning Autonomy on Learning Engagement. (Doctoral dissertation, South-Central Minzu University).

Yang, Y. (2021). Investigation on the Current Situation of Learning Engagement of Five-year Higher Vocational College Students——A Case Study of Changzhou City. *Vocational Education Communication,* 000(010), 100-107.

Yang, Y., Li, G., Su, Z., & Yuan, Y. (2021). Teacher's emotional support and math performance: The chain mediating effect of academic self-efficacy and math behavioral engagement. *Frontiers in psychology,* 3611. https://doi.org/10.3389/fpsyg.2021.651608

Yao, X. (2023). An Empirical Study on the Training of Nursing Major English Talents in Vocational Universities in Hainan. Advances in Education, *Humanities and Social Science Research,* 4(1), 89. https://doi.org/10.56028/aehssr.4.1.89.2023

Yildirım S. (2012). Teacher support, motivation, learning, strategy use, and achievement: a multilevel mediation model. *Journal of Experimental Education,* 80(2), 150-172.

Yu Zhixue. (2019). Research on Relationship between Teachers' Support and Students' Learning Engagement in Higher Vocational Colleges——Based on Analysis of Mediating Effect of Academic Self-efficacy. *Vocational and Technical Education,* 17(40), 65-70. https://doi.org/10.3969/j.issn.1008-3219.2019.17.017.

Zhang, C. F., Su, S. H., Li, L. (2004). Review of Achievement Goal Related Research. *New Research in Psychology,* 24 (2), 67-71.

Zhang Guangpeng. (2020). A Study on The relationship among The Caring Behavior, Achievement Goal Orientation and Learning Input of Senior High School Teachers. Master thesis, Harbin Normal University.

Zhang Hongbing.(2012). The relationship between teachers' self-determined motivation and academic emotion perceived by college students. Master thesis, Harbin Engineering University.

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