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A Review of the Relationship Between Students' Learning Motivation and Academic Performance

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Abstract. Modern secondary education faces practical challenges, including excessive academic pressure, insufficient learning motivation, and significant variations in student motivations. Consequently, students' academic development and mental health have garnered considerable attention. Academic performance, as the core indicator of learning outcomes, has long been a focal point of research in educational psychology due to its numerous influencing factors. This study employs a literature review to systematically examine the impact of learning motivation on academic performance across different educational stages. It aims to elucidate the current state of this relationship, identify influencing factors and existing challenges, and propose corresponding educational recommendations. The study indicates that multiple factors influence students' academic performance, with their mechanisms involving interactions between intrinsic and extrinsic motivations, the moderating role of self-efficacy, and the guiding function of goal orientation across various dimensions. The higher the perceived learning motivation among middle school students, the higher their academic performance, and the more conducive it is to improving their grades and selecting relevant interests. The research findings provide theoretical support for understanding the current state of learning motivation among contemporary students and enhancing the effectiveness of classroom instruction.

Keywords: Learning motivation, Academic performance, Middle school students, Theoretical integration, Localization challenges

1. Introduction

The relationship between learning motivation and academic performance is a central topic in educational research. Learning motivation is typically defined as an internal psychological state that arouses, sustains, and guides students' learning activities toward their learning objectives [1]. However, existing research predominantly focuses on the impact of learning motivation on academic performance. It often treats learning motivation as a single variable, resulting in a lack of comparative studies examining different types of motivation.

In fact, learning motivation is not a single psychological concept but a dynamic system composed of multiple interwoven components, including cognition, emotion, and behavior. According to existing research, it can be broadly categorized into intrinsic and extrinsic motivation. Dimensions such as cognitive motivation, self-efficacy, anxiety-driven motivation, and achievement motivation

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have become focal points and cutting-edge areas of study both domestically and internationally [2]. Under the current education system, many middle school students experience a decline in both learning interest and academic performance, driven by a range of motivational factors, making it difficult for teachers to identify the root causes and help students overcome these challenges.

Therefore, this study reviews literature published between 2015 and 2026 in Chinese databases (CNKI, Wanfang, VIP) and English databases (Web of Science, ERIC). Using keywords such as "learning motivation," "academic performance," "middle school students," and "self-efficacy," 11 Chinese and 5 English papers were selected based on source authority and topic relevance. A comparative analysis is conducted to identify core differences between domestic and international research. This study aims to identify the motivational factors affecting middle school students' academic performance and thereby provide theoretical and practical guidance for enhancing learning motivation and achievement.

2. Current research status on the impact of learning motivation on academic performance among chinese middle school students

2.1. Relevance studies and early mediation research

Extensive research indicates a significant correlation between learning motivation and academic performance, though this relationship is not a direct linear one but rather one involving complex internal mechanisms. Different types of motivation exert varying influences on academic achievement [3]. Before 2020, studies predominantly focused on the direct impact of learning motivation on middle school students' academic performance. Researchers distinguished between external motivations, such as recognition from others and performance indicators, and internal motivations, including self-actualization and personal interests. They explored their respective effects. As Jiang Yi noted, learning motivation is the internal force that directly drives students' learning activities [4].

Subsequently, researchers gradually realized that the relationship between motivation and academic performance is moderated by multiple factors, leading the research paradigm to shift from examining "whether there is a correlation" to investigating "how the correlation manifests" and "what moderates it." This shift is primarily reflected in three aspects: the exploration of mediating mechanisms, the introduction of moderating variables, and the construction of a localized theoretical framework for China. A review of the literature reveals that current research centers on academic anxiety, academic emotions, and self-efficacy as key factors influencing academic performance, while also seeking to elucidate the underlying interrelationships among these variables.

2.2. The mediating effect and self-efficacy

Regarding research on mediating mechanisms, Zhu Yuyan and Jing Yidan's study indicates that in chemistry education, a growth mindset may influence students' academic performance by affecting academic anxiety and learning motivation, thereby mediating the relationship between growth mindset and academic achievement [5]. This study examined the impact of academic anxiety on academic performance by using it as a mediating variable, thereby confirming the complex role of anxiety in the motivation-academic performance relationship. In another study focusing on chemistry among middle school students, Zeng Tao and Liu Xinyue et al. employed the Expectancy-Value Theory (EVT) to further investigate and elucidate the relationship between students' current learning motivation and their academic development [6]. EVT has since been widely used to predict

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and explain students' task selection, learning persistence, and academic performance [7]. Furthermore, self-efficacy, as a core mediating variable, has also garnered widespread attention. Wu Jiahui and Fu Hailun conducted a meta-analysis demonstrating that self-efficacy and learning engagement serve as both single- and chain-level mediators in the mechanism through which achievement goal orientation influences academic performance. This study further explores the validity of the Achievement Goal Theory, Expectancy Value Theory, and Self-Efficacy Theory in the context of education [8]. This discovery explains why some students, despite having strong learning motivation, fail to translate it into outstanding academic performance; the conversion of motivation into achievement requires self-efficacy as a bridge.

2.3. The introduction of regulatory variables and attempts at localization

However, the systematic introduction of moderating variables represents a significant advance in domestic research. Zhou Yuan [9] found that a one-unit increase in external learning motivation among middle school students was associated with a 0.009-unit increase in the rate of change in academic performance over time. These findings confirm that external motivation significantly influences academic improvement and suggest that teachers should actively foster mutual assistance, cooperation, and healthy competition in the classroom. Regarding theoretical localization, some scholars have begun integrating Western theories with the local educational context. Nevertheless, a motivation–performance model specifically tailored to the educational realities of Chinese secondary school students remains notably absent, despite calls to align developmental psychology research with the country's social and practical needs [10]. Overall, domestic research has confirmed the positive correlation between learning motivation and academic performance and has preliminarily explored the mediating roles of self-efficacy and academic anxiety as well as the moderating effect of external motivation. Comparative studies examining different types of motivation are still insufficient, and current research on moderating variables remains limited and lacks a robust localized theoretical framework.

3. Current research status on the impact of learning motivation on academic performance among middle school students abroad

3.1. The integrated theoretical framework

International research on the relationship between student learning motivation and academic performance has shifted from static correlation validation to in-depth exploration of dynamic mechanisms, multidimensional integration, neuroscience, and intervention applications. The expansion of research in this field indicates that foreign scholars not only examine the relationship between the two at the teaching level, but also employ core frameworks such as Self-Determination Theory (SDT), Achievement Goal Theory (AGT), and Social Cognitive Theory. Regarding moderating variables, foreign scholars have focused on motivation types, developmental trajectories, and causal pathways within these theories, establishing a clear research framework.

3.2. The moderating effect of family factors

Family factors, as a significant external moderating variable, have garnered widespread attention. Nurul Islam et al. investigated the relationships among family factors, learning motivation, and academic performance among middle school students. The results demonstrate that family factors

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significantly influence both students' learning motivation and academic performance. There is a statistically significant positive correlation between students' academic achievement and their learning motivation scores ($r = 0.339$, $p < 0.01$) [11]. Research in this area aligns with the core concept of "relational needs" in self-determination theory, demonstrating that the family support system, as an external contextual factor, effectively facilitates the internalization of intrinsic motivation. Notably, the study also revealed that the family type itself had no significant effect on the motivation-academic performance relationship, suggesting that the qualitative characteristics of family function, such as emotional atmosphere and autonomous support, play a more critical role than the family structure itself. Furthermore, Heydarei Alireza et al. demonstrated correlations among family emotional climate, individual-social adaptation, achievement motivation, and academic performance [12].

3.3. The developmental trajectory of motivation and longitudinal studies

In studies of motivational development trajectories, foreign scholars have paid particular attention to the dynamic evolution of motivational patterns during the middle school years. Emine Ozturk and colleagues employed a latent growth model to conduct a three-year longitudinal study on the developmental trajectory of mathematical motivation among middle school students in the UK and the US (mean age 15.2 years), examining how students' thinking patterns influence this trajectory. The results indicate that expectations of mathematical ability (Expectancy), interest (Interest), and utility value, including mathematical motivation, all showed a general decline [13]. This finding also underscores that the middle school years are a "vulnerable period" for motivation, underscoring the need to enhance intervention strategies to delay the decline in motivation.

3.4. Personality traits and neuroscience

The introduction of neuroscience technology has opened up new dimensions for research on the motivation-performance relationship. Studies have gradually shifted focus to the influence of personality traits on students' learning motivation. Australian scholar Nikolas Apostolov and colleagues investigated the effects of neuroticism and conscientiousness on learning motivation. The study revealed that total neuroticism scores were significantly negatively correlated with learning motivation, with the subs of depression and vulnerability showing significant negative correlations, while anxiety was the only neurotic dimension that exhibited a significant positive predictive relationship with academic motivation [14]. Previous studies primarily focused on the five major personality traits as a single composite score, this study broke them down into sub-dimensions to demonstrate variations in their motivational effects. The study confirms that the effects of neuroticism and conscientiousness on motivation exhibit dimension-specific characteristics.Furthermore, functional magnetic resonance imaging (fMRI) and event-related potential (ERP) techniques are widely employed to elucidate the neural foundations of motivational processing. However, most current studies primarily focus on animal experiments or adult samples, with limited research dedicated to the neural mechanisms in middle school students. Consequently, it remains challenging to clearly explain the direct role of neural factors in learning motivation or academic performance.

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4. Discussion

Both domestic and international studies have confirmed a positive correlation between learning motivation and academic performance, with this relationship mediated by intermediate and moderating variables. However, a comparison of the literature reveals significant differences in research methodologies and key research focuses between the two sets of studies.

4.1. Core differences in research between domestic and international institutions

In examining motivational preferences, China places greater emphasis on intrinsic motivation and the validation through local practices. The introduction of the Self-Determination Theory in the 1980s provided theoretical guidance for foreign scholars to focus on verifying the correlation between extrinsic motivation and academic performance [15]. Furthermore, frameworks such as Self-Determination Theory (SDT), Achievement Goal Theory (AGT), and Expectancy-Value Theory (EVT) have engaged in mutual dialogue and integration.

There are also significant differences in the research methods. International research on such relationships predominantly employs statistical techniques such as longitudinal tracking designs and latent category analysis, enabling effective capture of the dynamic evolution and group heterogeneity in the learning motivation-academic performance relationship. Early domestic research predominantly employed questionnaire methods, investigating specific factors by controlling for variables; however, this approach also made it difficult to verify temporal effects. In recent years, the application of longitudinal analytical methods, such as cross-lag and latent growth curve models, has increased. As demonstrated by Lan Haihang's research employing cross-lag analysis, the learning motivation and academic performance of ninth-grade students in chemistry not only exhibit a significant positive correlation at the same time point, but also demonstrate a mutually reinforcing causal relationship over time [16].

Domestically, research focuses on self-efficacy and academic emotions in the classroom, whereas internationally, the scope extends to family emotional climate, personality traits, and developmental trajectories across educational stages. This disparity reflects differing conceptual frameworks regarding the ecosystem underlying the motivation-academic performance relationship, which results from the combined influences of cognitive assessment, social environment, and individual goals.

4.2. Insufficient theoretical integration and the challenges of localization

In contrast, although domestic research has actively incorporated Western theories in recent years, it has largely remained at the level of theoretical verification, with insufficient expansion of practical applications. This disparity stems partly from differences in research traditions: Western educational psychology, after decades of development, has established a relatively comprehensive theoretical framework and research paradigms, whereas domestic research began later and is currently transitioning from importing and assimilating Western approaches to achieving independent innovation; consequently, there has been limited exploration into the multifaceted influences of learning motivation and academic achievement. Nevertheless, some localized concepts, such as social responsibility, exam-anxiety motivation, and face motivation, have been proposed to examine their potential relationships with learning motivation.

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4.3. Practical insights

Based on the literature reviewed, this study finds that approaches relying solely on stimulating students' intrinsic motivation are no longer sufficient to address the complexities of today's educational realities. There is an urgent need to establish a comprehensive intervention system that integrates multiple dimensions and embodies holistic thinking. Accordingly, three targeted recommendations are proposed. First, at the instructional level, emphasis should be placed on developing students' "motivation-strategy" cultivation programs. Second, guided classroom instruction should be implemented to provide students with comprehensive support. Third, sustained attention must be paid to maintaining student motivation, so that their learning interest remains durable over time.

The motivation of middle school students is inherently fragile and susceptible to decline under the influence of multiple external factors. Therefore, greater attention should be paid to the interplay of these factors within specific contexts. Externally, the family emotional atmosphere, the school instructional environment, and the broader social culture collectively form the system that shapes the relationship between learning motivation and academic achievement. Internally, self-efficacy, academic emotions, and cognitive strategies govern the transformation of motivation into academic performance.

5. Conclusion

This paper provides a systematic review of domestic and international research on student learning motivation and academic achievement from 2015 to 2026, as well as the current influences between these two factors among middle school students. The study demonstrates a significant interaction between learning motivation and academic performance. High learning motivation enhances students' academic performance, while better academic performance further strengthens learning motivation. Research has confirmed that variables such as self-efficacy, family emotional climate, personality traits, and classroom environment influence learning motivation and academic performance. This study further highlights significant differences between domestic and international research: foreign studies emphasize longitudinal tracking and theoretical integration, whereas domestic research predominantly relies on mediation models with undeveloped localized theoretical frameworks. These disparities stem from variations in research traditions, cultural contexts, and educational systems.

This study has its limitations. As it relies solely on existing literature and secondary data, its capacity to thoroughly examine actual causal impacts is constrained. Moreover, the study is limited to specific populations and regions identified, overlooking geographical, cultural, and physiological factors, thereby lacking generalizability. Future research can further expand sample coverage, integrate multi-dimensional longitudinal tracking with cutting-edge technological approaches, and delve deeper into the underlying mechanisms by which learning motivation influences academic performance across diverse cultural contexts. Future work should advances the development and refinement of localized theoretical frameworks, providing more robust and targeted academic support for motivational interventions and teaching practices in China's secondary education sector.

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