
The Influence of Supervisor Support on Graduate Students' Learning Anxiety: The Moderating Effect of Learning Motivation

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Abstract: *This study focuses on the impact of mentor support on graduate students' learning anxiety and the moderating role of learning motivation. It examines a group of graduate students from four universities in Chengdu, Sichuan Province. Through carefully designed and distributed questionnaires, 680 valid responses were successfully collected. The analysis of the data clearly shows a significant negative correlation between mentor support and graduate students' learning anxiety; the more supportive the mentor, the lower the students' anxiety levels. Moreover, learning motivation plays a crucial moderating role in the relationship between mentor support and learning anxiety. Specifically, when graduate students have high learning motivation, their level of learning anxiety is significantly lower than that of those with lower motivation, given the same level of mentor support. This finding provides valuable empirical evidence for graduate education, highlighting the critical importance of mentor support and learning motivation throughout the students' academic journey. Based on this, the study strongly recommends that universities should place a high priority on and genuinely enhance mentor training, improving mentors' professional competence and guidance skills. Additionally, it suggests incorporating the cultivation of learning motivation into the key components of the graduate education system, using multi-dimensional and comprehensive strategies to effectively reduce students' anxiety, thereby significantly enhancing their learning outcomes and overall educational quality, contributing to the high-quality development of higher education in China.*

Keywords: *Teacher support, learning anxiety, learning motivation, regulatory role*

1. Introduction

Graduate education holds a pivotal position in the higher education system, serving as a critical phase for cultivating high-level talents with deep professional knowledge, independent research capabilities, and an innovative spirit. As society's demand for high-quality talent grows, the quality and effectiveness of graduate education have garnered increasing attention from all sectors of society. However, during the process of studying and researching at the graduate level, learning anxiety has become a significant issue, impacting both academic

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performance and mental health, and has attracted considerable attention from educators and researchers. Learning anxiety is a complex emotional response that can stem from various factors, such as the difficulty of academic tasks, academic pressure, uncertainty about the future, and doubts about one's own abilities. Moderate learning anxiety can motivate graduate students to work harder and engage more deeply in their studies and research. However, excessive learning anxiety can severely undermine their learning efficiency, interest, and mental health. It can lead to issues like difficulty concentrating, memory decline, and low learning efficiency, which in turn affect their academic performance and research progress. Long-term high anxiety can also result in psychological problems such as anxiety disorders and depression, significantly impacting their physical and mental well-being and future development. In the process of studying and researching at the graduate level, mentors play a vital role. Mentors are not only guides for academic research but also important supporters and mentors in their students' academic and personal lives. The support provided by mentors includes academic guidance, emotional support, and career planning advice. A good mentor can provide graduate students with clear research directions and methodological guidance, helping them address various challenges in their studies and research, thereby boosting their confidence and motivation. Additionally, the mentor's care and encouragement offer emotional support, alleviating anxiety and making students feel supported and cared for, thus enabling them to face academic and research challenges more positively. Therefore, a mentor's support significantly influences graduate students' learning anxiety, making it one of the key factors affecting their academic performance and mental health. Learning motivation, which serves as an internal driving force in the learning process of graduate students, also plays a crucial role in managing learning anxiety. It refers to the intrinsic psychological factors that motivate graduate students to engage in learning activities, reflecting their interest, purpose, and expectations in these activities. Strong learning motivation can ignite enthusiasm for learning and research, encouraging students to actively participate and tackle challenges. When graduate students have clear goals and strong intrinsic motivation, they are more likely to transform learning anxiety into positive learning momentum, achieving their objectives through diligent study and research. Conversely, if a student lacks sufficient learning motivation, they may lack interest and drive in learning and research, making them more susceptible to learning anxiety and leading to poor academic outcomes. Thus, learning motivation acts as a critical regulator in the development of learning anxiety among graduate students, playing a vital role in influencing the level of their anxiety. This study focuses on the graduate student population in Chengdu, Sichuan Province, a region with numerous universities and a significant scale of graduate education, making it highly representative and valuable for research. By conducting an in-depth analysis of variables such as learning anxiety, mentor support, and learning motivation among graduate students in this area, the study aims to explore the impact of mentor support on learning anxiety and the moderating role of learning motivation. This research not only provides theoretical support for university graduate education, helping educators better

understand the mechanisms by which mentor support and learning motivation influence graduate students' learning anxiety, thus enabling the development of more effective educational strategies and interventions; it also offers practical guidance for the practice of university graduate education, promoting universities to enhance mentor training and the cultivation of learning motivation, thereby improving the quality of graduate education and nurturing more high-quality talents who can meet the demands of social development. Additionally, this study has practical significance, providing valuable insights for graduate students themselves, helping them better understand how mentor support and learning motivation affect their own learning anxiety, thus encouraging them to actively seek support and guidance from mentors, stimulating and cultivating their learning motivation, and enhancing their learning outcomes and mental health levels.

2. Research Background and Problem Statement

2.1 Research Background

With the rapid economic development in China and the growing demand for high-level talent, the scale of graduate education has expanded significantly. Graduate students play a crucial role in academic research and technological innovation. However, graduate education also faces challenges, such as high levels of learning anxiety and significant academic pressure. Therefore, studying the factors that influence graduate learning anxiety is of great practical importance.

2.2 Mentor Support and Learning

Anxiety Mentor support is a critical component of graduate education. Through providing academic guidance, emotional support, and resource assistance, mentors can significantly impact graduate students' learning anxiety. Research has shown that mentor support can notably reduce graduate students' learning anxiety (Affuso et al., 2023; An et al., 2023). Mentor support not only helps graduate students tackle academic challenges but also boosts their confidence and interest in learning, thereby reducing learning anxiety.

2.3 Learning Motivation and Learning

Anxiety Learning motivation serves as the internal driving force in the learning process of graduate students and has a significant impact on learning anxiety. Graduate students with high learning motivation are more likely to exhibit positive attitudes and behaviors towards learning, which helps to reduce learning anxiety (Ames, 1992; Bandura, 1977). Learning motivation not only aids graduate students in better addressing academic challenges but also enhances their psychological resilience, mitigating the negative effects of learning anxiety.

2.4 Research Questions

Despite existing research on the impact of mentor support and learning motivation on learning anxiety, the moderating role of learning motivation between mentor support and learning anxiety has not been clearly identified. Therefore, this study poses the following questions: How does mentor support affect graduate students' learning anxiety? Does learning motivation moderate the relationship between mentor support and learning anxiety?

3. Research Methods

3.1 Research Subjects

This study employs a quantitative research design, collecting 680 valid questionnaires from graduate students at four universities in Chengdu, Sichuan Province. The questionnaire covers three dimensions: mentor support, learning motivation, and learning anxiety.

3.2 Questionnaire Design

The questionnaire is based on established scales, including the Mentor Support Scale (Affuso et al., 2023), the Learning Motivation Scale (Ames, 1992), and the Learning Anxiety Scale (An et al., 2023). All scales use a 5-point Likert scale, ranging from "1-Strongly Disagree" to "5-Strongly Agree."

3.3 Data Analysis

Descriptive statistics, correlation analysis, and structural equation modeling (SEM) are used to analyze the data. Descriptive statistics describe the mean and standard deviation of each variable; correlation analysis tests the relationships between variables; SEM examines the impact of mentor support on learning anxiety and the moderating effect of learning motivation.

4. Research Results

4.1 Descriptive Statistics

The mean values for mentor support, learning motivation, and learning anxiety were 3.75, 3.60, and 3.50, respectively, indicating that graduate students generally performed well in these areas.

4.2 Correlation Analysis

Mentor support was significantly negatively correlated with learning anxiety ($r = -.65, p < .001$) and positively correlated with learning motivation ($r = .58, p < .001$). Learning motivation was also significantly negatively correlated with learning anxiety ($r = -.55, p < .001$).

4.3 Moderating Effect Analysis

The results of the structural equation modeling indicated that learning motivation moderated the relationship between mentor support and learning anxiety ($\beta = -.42, p < .001$). Specifically, mentor support significantly reduced learning anxiety among graduate students, and those with high learning motivation exhibited lower levels of learning anxiety when supported by mentors.

5. Discussion

5.1 Direct Impact of Mentor Support on Learning Anxiety

The study found that mentor support had a significant negative impact on learning anxiety among graduate students. This finding is consistent with previous research (Affuso et al., 2023; An et al., 2023). By providing academic guidance, emotional support, and resource assistance, mentors can enhance graduate students' confidence and interest in learning, thereby reducing their learning anxiety.

5.2 Moderating Role of Learning

Motivation Learning motivation moderated the relationship between mentor support and learning anxiety. Graduate students with high learning motivation exhibit lower levels of learning anxiety when supported by their mentors. This suggests that learning motivation not only helps graduate students better handle academic challenges but also enhances their psychological resilience and mitigates the negative effects of learning anxiety.

5.3 Practical Significance

This study provides empirical evidence for graduate education in higher education institutions, highlighting the importance of mentor support and learning motivation in the learning process of graduate students. It is recommended that universities enhance mentor training to improve their guidance skills, focus on fostering the learning motivation of graduate students, thereby reducing their learning anxiety and improving learning outcomes.

6. Conclusion

In recent years, the academic community has witnessed a growing concern over the mental health of graduate students. Learning anxiety, as a prevalent issue, has been found to have detrimental effects on their academic performance, psychological well-being, and overall development. This study, therefore, aims to delve into the impact of mentor support on graduate students' learning anxiety and the moderating role of learning motivation through empirical research.

The findings of this study are of great significance. The results indicate that mentor support has a significant negative effect on learning anxiety. Specifically, when graduate students receive ample and effective mentor support, they tend to experience lower levels of learning anxiety. This can be attributed to the fact that mentors can provide valuable guidance, emotional support, and resources, which help students better cope with the challenges and pressures they encounter during their academic journey.

Moreover, the study reveals that learning motivation acts as a crucial moderating factor between mentor support and learning anxiety. When students have high learning motivation,

the positive impact of mentor support on reducing learning anxiety is more pronounced. This suggests that students who are highly motivated are more likely to actively seek and benefit from the support provided by their mentors, and thus are better able to manage their learning anxiety.**

Future research could further investigate the roles of other moderating variables to gain a more comprehensive understanding of the mechanisms by which mentor support influences learning anxiety. For instance, social support from peers, family, and other sources may also play a significant role in mediating the relationship between mentor support and learning anxiety. Additionally, the academic environment, including factors such as the quality of teaching, the availability of resources, and the overall atmosphere of the institution, could also have an impact. By examining these potential moderating variables, future research can provide more insights into how different factors interact with mentor support to influence graduate students' learning anxiety.

In conclusion, this study highlights the importance of mentor support in alleviating graduate students' learning anxiety and the moderating role of learning motivation. It calls for greater attention to the quality and effectiveness of mentor-mentee relationships in graduate education. Meanwhile, further research is encouraged to explore other potential moderating variables and mechanisms, so as to better support graduate students' mental health and academic success.

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