

The Influence of Self-efficacy on Academic Resilience: The Mediating Analysis Based on Motivation and Emotion Regulation

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Abstract. In the field of education, how to overcome academic pressure and cope with academic challenges has always been an urgent problem to be solved. Some psychological traits are hot research topics, for example self-efficacy and academic resilience. In recent years, researchers have attempted to measure the effects of intrinsic drive and regulation forces in self-efficacy and academic resilience of students receiving higher education. Based on relevant empirical research in recent years, this paper reviews typical literature and studies to explore how motivation and emotion regulation mediate the pathway from self-efficacy to academic resilience. This paper points out that while self-efficacy can directly and positively affect academic resilience, students' high self-efficacy can also indirectly play roles in enhancing intrinsic motivation and emotion regulation ability respectively, to improve academic resilience. In order to provide a supportive learning environment, this study recommends improving students' intrinsic motivation and emotion regulation while promoting cooperation between families and schools. To further understand external environmental factors, future research should broaden sample variety, use qualitative methodologies, and adopt longitudinal designs. The above findings provide effective educational practices and improvement strategies for students, parents, and schools.

Keywords: Self-efficacy, Academic Resilience, Motivation, Emotion Regulation

1. Introduction

Education has always been a widely discussed topic and has received increasing attention. The academic pressure and setbacks that arise have gradually become a major problem in students' learning [1]. In such an educational environment, self-efficacy and academic resilience have gradually become the focus of many researchers, and their relationship and role in coping with academic pressure and frustration have become increasingly important and widely discussed. Self-efficacy can make a significant contribution to personal growth and can directly affect an individual's state and behaviors in academic adversity [2]. High-level self-efficacy can make students regard adversity as the challenge and overcome academic bottlenecks by enhancing their academic resilience and self-confidence [3]. However, many current studies only focus on the direct effect of self-efficacy on academic resilience, and some intrinsic psychological traits are lacking as

indirect mediating effects to clarify the specific internal mechanism. They rarely consider different psychological traits and abilities in the path of self-efficacy to academic resilience. Some studies on these gaps have profound implications for the field of education.

Therefore, this paper aims to analyze the mediating role of motivation, especially intrinsic motivation, and emotion regulation, in the path of self-efficacy affecting academic resilience by reviewing existing empirical studies and based on social cognitive theory in psychology. Secondly, the paper will also compare and analyze these studies in the same field and draw the most common and applicable general research conclusions by comparing students of different education levels and genders. In addition, this paper will also summarize the educational implications that are beneficial to students, parents and schools, and provide some clearer directions and methods for future research.

2. Core research objects

2.1. Self-efficacy

Self-efficacy is widely recognized in academia as an ability in which individuals can confidently judge and perceive that they can achieve success and achieve goals in specific fields and scenarios [1]. Bandura's social learning theory regards self-efficacy as an important factor influencing the composition of self-thoughts and behaviors, but it is also influenced by society and the environment such as parents' expectation, school life and peer relationships, leading to dynamic internal-external interactions [3]. In addition, in the field of education and academic, self-efficacy is a measure for judging learners and educators, which is closely related to academic achievement, academic performance, and self-confidence [2]. Students with high self-efficacy are often given more expectations than those with low self-efficacy because they are perceived to be more self-directed learners and capable of excelling.

2.2. Academic resilience

Resilience mainly refers to the ability of an individual to recover from psychological stress or return to original situation [4]. The word resilience is now used more to describe people, especially in terms of psychology and education. Academic resilience mainly refers to the learner's ability to cope and adapt when academic adversity and difficulties come [5]. Unlike other fields of resilience, academic resilience is more from the perspective of students' continuous academic status and personal growth and examines their ability to use strategies and methods in response to various situations and problems. In addition, it is closely related to many aspects of student's academic traits and external factors such as the learning environment, parenting styles, peer support, teacher intervention and school policies. Under disadvantaged conditions, students with high academic resilience can still rely on resilience to achieve excellent academic results when they are not in good shape for other traits such as a positive mindset and intellectual level [4].

2.3. Motivation

Motivation refers to a psychological drive and tendency that is caused by a specific stimulus or need to guide and maintain behavior [3]. Motivation is dynamic and adjusts according to the state of the person. According to self-determination theory, motivation can be divided into three main categories, namely intrinsic motivation, which is influenced by the individual's actual interests and pursuits, extrinsic motivation, which is controlled by external reward mechanisms and social

expectations, and amotivation, which refers to the absence of motivation [6]. Motivation is also a hotly debated topic in the field of education, especially with engagement and academic achievement. Motivation, especially intrinsic motivation, can help students progress academically in the long run, while also fostering a healthy psychological environment for them [5]. In addition, self-efficacy helps shape the motivation of people, especially students, so that motivation continues to work [6]. In the context of education, motivated students are more likely to show greater resilience and perseverance in the face of setbacks [5].

2.4. Emotion regulation

Emotion regulation, also known as emotional regulation, which is defined as a dynamic process, is used by individuals at the behavioral, cognitive, and physiological levels to control and evaluate their emotions [7]. This regulation has a profound impact on people in various aspects, both internally and externally, as well as in various states, such as conscious and unconscious. In addition, emotion regulation also plays an important role in the academic environment as an important psychological factor. Positive emotion regulation helps students better cope with academic stress and concentrate [7]. In higher education, emotion regulation and self-efficacy influence each other and together make a crucial effect on academic resilience. In general, students processing high self-efficacy tend to enhance their academic resilience and increase their confidence and determination to persevere by improving their internal psychology and enhancing their emotion regulation ability [8].

3. The effect of self-efficacy on academic resilience—mediating role of motivation

3.1. Self-efficacy's direct impact on academic resilience

In recent years, as the intensity of competition among learners in academia has increased, academic pressure and learning difficulties have followed. Self-efficacy as a link to confidence and belief is increasingly valued [2]. At the same time, academic resilience as a stress regulator has been widely discussed. A lot of research is starting to notice a research gap in the interplay of self-efficacy and academic resilience. Some researchers have found and revealed that self-efficacy can directly affect academic resilience in the education field. A researcher explored whether the self-efficacy of 435 undergraduate students accurately predicted academic resilience when face of the academic adversity in self and others [2]. This study highlighted that students' self-efficacy was significantly positively correlated with their academic resilience under these two different adversity conditions, and self-efficacy could directly affect academic resilience, especially in individual academic adversity. In addition, the study noted differences in academic resilience among participants with different self-efficacy. Participants who have high self-efficacy are able to face academic challenges with ease [2]. Three researchers from the Valahia University of Targoviste analyzed abilities of self-efficacy and academic resilience of 194 normal university students through SEM (Structural Equation Modeling) [1]. The results show that self-efficacy is the core predictor of academic resilience, which can have a significant impact on academic resilience [1]. This result explains some university students in a Romanian university are able to persevere through self-efficacy in the face of academic pressure [1]. Another study by a research group from Padang State University confirmed that even different levels of self-efficacy of students in specific religious educational contexts could have varying degrees of positive impact on academic resilience [9].

3.2. Mediating role of motivation

In the path from self-efficacy to academic resilience, motivation plays a statistically significant mediating role in translating self-efficacy into academic resilience [6]. In previous studies, there have been many studies that have separated self-efficacy and academic resilience, discussing them with motivation respectively. Some researchers pointed out that self-efficacy and motivation could form a dynamic cycle, in which high self-efficacy in the early stage, such as the beginning of the course, could promote motivation stimulation [3]. In addition, they found that in clinical trials that the increase in self-efficacy could be able to cope with and overcome phobias by enhancing intrinsic motivation and in the field of education, the increase in self-efficacy led to a significant improvement in students' desire and motivation to explore difficult problems [3]. Saeed's research group discovered in an empirical study of university students that students with strong intrinsic motivation are more willing to put a lot of effort and energy into learning, regardless of whether they are in the context of a joint family structure or a nuclear family model [5]. In addition, female university students generally maintain more positive and effective self-efficacy and academic resilience than males [5].

Based on previous studies, many studies have begun to focus on how motivation as a mediating variable makes an essential impact on the process of self-efficacy affecting academic resilience. A study of 518 male and female university students from Jiangsu, Zhejiang, and Shanghai in China, who received higher education, found that when the parenting style was authoritative, which was dominated by high support and appropriate requirements, self-efficacy had the most significant effect on the path of academic resilience through motivation [4]. Through the measurement method of self-report questionnaires and the SEM and Bootstrap methods, the study concluded that self-efficacy can indirectly form and enhance academic resilience by promoting motivation, especially intrinsic motivation driven by interest. This study has found that motivation can act as a bridge to drive students to set and schedule plans, based on the self-confidence that self-efficacy provides to enhance their academic resilience to cope with challenges [4]. Another empirical study from Romania also tested the mediating effect of intrinsic and extrinsic motivation in how self-efficacy influences academic resilience [1]. This study measured four main variables including self-efficacy, intrinsic motivation, extrinsic motivation and academic resilience in 194 normal university students using scales [1]. The results showed that the mediating effect of intrinsic motivation reached a significant positive level, which indicated that students' belief that they wanted to work hard from the inside could positively improve resilience by influencing curiosity and hobbies. Among them, based on path coefficient analysis, intrinsic motivation is more influential than self-efficacy in shaping academic resilience. However, in this study, long-term extrinsic motivation could instead damage and inhibit students' academic resilience, which shows that the source and type of motivation have different effects on this pathway [1].

3.3. Comparisons of studies

In response to the studies mentioned above, researchers found that they all placed the research in an educational environment, with university students as the main research object, and conducted the research on the basis of social cognitive theory. The gender ratio of the participants recruited in these studies is relatively balanced. However, there are also differences between these studies. For example, the focus of each study is different. Shengyao's research group examined the relationship between motivation, self-efficacy, and academic resilience in the context of family education, and highlighted the importance of parenting styles [4]. Three researchers from Valahia University of

Targoviste mainly focused on the differences in the role of intrinsic and extrinsic motivation as mediators in self-efficacy and academic resilience pathways and pointed out the hidden dangers of extrinsic motivation [1]. Saeed's research group examined gender differences and explored the differences between the motivation and resilience of students of different genders [5].

3.4. Limitations

There are some limitations in these studies. These studies use self-report questionnaires as the main research method, which has the potential to lead to biases in social expectations and subjective assumptions. In addition, these studies are cross-sectional studies that test only in a single time period and do not fully validate the causal links through which self-efficacy and motivation affect academic resilience. Another limitation of these studies is that the sample is single and underrepresented. The data from these studies were measured only on students at one or a few universities in a single country, so the results were specific and had low external validity [1,3-5].

4. The impact of self-efficacy on academic resilience—mediating role of emotion regulation

4.1. Mediating role of emotion regulation

In previous studies, emotion regulation has gradually been widely studied in the context of education as a regulation ability that combines cognition and emotion. Emotion regulation, self-efficacy, and academic resilience all have a great impact and effect on the learning process and outcomes, and the relationship between these three has also become a hot topic and concern in academia [7]. In a quantitative study of 250 non-local students in Indonesia, it was found that there was a synergistic effect between emotion regulation and self-efficacy, which means that when emotion regulation influences self-efficacy, which in turn promotes individuals, to adopt positive emotion regulation strategies to mitigate the emotional effects of academic setbacks [8]. Namaziandost's research group pointed out that emotion regulation had a significant positive relationship and strong explanatory power on academic resilience [7]. Researchers believe that in higher education, students with high emotion regulation skills tend to maintain positive attitudes and be good at handling and coping with academic pressure to maintain and even improve learning motivation more effectively.

Based on these studies mentioned above and discussions on emotion regulation in the academic context, some researchers have tried to explore the mediating role of some individual psychological traits and abilities including emotion regulation in the path of self-efficacy affecting academic resilience. Emotion regulation as the most important branch of self-regulation is the specific manifestation of self-regulation in terms of emotions [10]. In a study of 255 female leaders in an educational institution in South Africa, researchers conducted a chain mediation analysis and the bootstrap method to find out that the mediating effect of self-regulation under positive emotion in the pathway through which self-efficacy affects resilience is significant, which means self-efficacy can positively predict resilience by positively predicting self-regulation [11]. In addition, they pointed out that these women, more than half of whom have obtained a PhD, with greater self-efficacy are more willing to maintain and enhance motivation to continue working hard and face setbacks by regulating their emotions [11]. Therefore, this study also indirectly highlights the mediating role of emotion regulation, as one of the core dimensions of self-regulation, in connecting self-efficacy and resilience. Another study on mediating variables in the path of self-efficacy affecting resilience also indirectly illustrates the mediating role of emotion regulation [12]. The

researcher of this study found that self-efficacy could directly positively significantly predict resilience, including academic resilience, and emotional intelligence served as a partial mediator in the indirect pathway of self-efficacy affecting resilience [12]. It is worth noting that this study used EIS (the Emotional Intelligence Scale) focusing on measures of emotion management dimensions [12]. This situation means that in the mediating role of emotional intelligence, emotion regulation is regarded as an important component. In addition, researchers emphasize that emotion regulation ability and a positive attitude are key factors in resilience [12]. Therefore, the results of this study indicate that emotion regulation embedded within emotional intelligence mediates this influence pathway.

4.2. Comparisons of studies

There are many similarities between these studies mentioned above through comparison. These four studies focus on psychological traits, including self-efficacy, academic resilience, emotion regulation, and some emotion-related regulatory abilities for specific individuals within the field of education such as university students, secondary vocational students, and workers in higher education institutions [7,8,11,12]. In addition, these studies are quantitative studies that are analyzed and discussed using standardized scales closely related to the study variables and SPSS (Statistical Product and Service Solutions). The results of these studies showed that self-efficacy was significantly positively correlated with resilience, especially academic resilience, while emotional psychological traits and abilities were positively correlated with self-efficacy and resilience [7,8,11,12].

There are some differences between these papers. The latter two papers are mainly mediating analysis, which indirectly demonstrate the mediating role of emotion regulation by demonstrating the mediating role of emotional traits and abilities related to or containing emotion regulation in the relationship between self-efficacy and resilience [11,12]. In addition, there is a slight difference among academic resilience or psychological resilience that includes academic resilience mentioned in each paper. One type of academic resilience is used to test the ability to cope with academic obstacles [7]. Others are defined as the ability to overcome and adapt to difficulties and stress or conceptualized within the broader framework [8,11,12].

4.3. Limitations

These studies have certain limitations. The samples collected by these studies are too single, as these studies only look at students and workers in individual schools and lack sample diversity. In addition, Pillay et al.'s study focused only on females with high education, making it impossible to apply the results of the study equally to males and some females with lower education [11]. Another common limitation is that these studies focus only on changes in factors such as the individual's internal psychological processes and ignore external influences such as culture, family, and school. In addition, cross-sectional studies and standardized scales are affected by the lack of time and personalization, making the study data limited in variability [7,8,11,12].

5. Discussion and suggestion

5.1. Summary of current studies

Based on the studies discussed above, the following overall summary can be drawn. The intrinsic motivation as the driving force and the psychological trait dominated by emotion regulation are

significantly positively correlated with each other in the relationship between self-efficacy and academic resilience, respectively. More specifically, these psychological resources and traits interact, and there is an indirect influencing mechanism that intrinsic motivation and emotion regulation play important mediating roles in the impact of self-efficacy on academic resilience. The effects of self-efficacy, motivation, and emotion regulation on resilience among students of different ages, genders, and educational backgrounds are mechanistically consistent, but there are significant differences in intensity of psychological resources among different student groups [1,4,7,10]. For example, Saeed's research group found that based on average test scores of scales, female students showed greater advantages than male students in terms of motivation and academic adaptability [5]. In addition, these studies also found that the external environment, especially the family and educational environment, is generally essential for the formation of personal psychological traits [3-5,7,8,11,12]. For example, Jiang pointed out that families with a beautiful and welcoming atmosphere can directly improve emotion regulation by enhancing students' sense of security [12]. Researchers from the University of North Carolina at Greensboro claimed that educators' goal setting and peer role models have the reinforcing effects on self-efficacy and learning motivation [3].

5.2. Suggestions

Based on the above holistic summary, some suggestions can be proposed. To reinforce intrinsic motivation rather than extrinsic motivation, students should be intrinsically motivated when engaging in classroom learning and self-directed learning, explore subjects and content that they are genuinely interested in, and reduce their desire for external rewards and scores [1]. In the face of setbacks and failures, students should be good at using their corresponding emotion adjustment skills, trying to relieve stress and cultivate confidence to enhance their academic resilience. In addition, parents and schools should work together to commit to their children's education. Parents can appropriately give students autonomy in planning and decision-making independently and put forward reasonable expectations and requirements while giving full support and communication. In addition, schools and educators can create a good learning atmosphere for students, provide corresponding psychological training and counseling courses, and give them timely feedback to help them cope with stress and improve self-efficacy [5].

5.3. Future research directions

In view of the results of the above studies and the general limitations, future studies should try to conduct longitudinal studies to observe the dynamic relationships between the different psychological traits of the studied participants at different times. Future studies should focus more on the impact of the external educational environment and add research methods such as interviews and case studies to understand the participants more thoroughly. In addition, future studies can expand the sample scope and diversity and enhance the generalizability of findings by adopting cross-cultural research and multidisciplinary research.

6. Conclusion

This paper focuses on two psychological variables, motivation and emotion regulation, and places them in the path of self-efficacy on academic resilience. By integrating, summarizing, and comparing past studies, especially empirical studies, this paper uses the background of the direct

positive influence from self-efficacy to academic resilience. Based on this background, the paper focuses on the role of motivation and emotion regulation of some groups in education field, especially students, in the indirect impact of self-efficacy on academic resilience. Through many studies, the paper finds that students' self-efficacy can often positively and significantly predict academic resilience. Students with high self-efficacy can improve their self-confidence and cope effectively with difficulties through positive intrinsic motivation and strong emotion regulation skills. Excessive extrinsic motivation can have a negative impact on the process of self-efficacy shaping academic resilience. In addition, external factors and environments, such as campus life and family influences, can also have impacts on students related internal psychological traits, especially emotion regulation. Therefore, the creation of a positive learning environment and atmosphere requires the efforts of parents and educators. Students should also pay more attention to their internal motivation and prepare for emotion regulation to cope with academic stress and setbacks. This paper provides good material for studies focusing on self-efficacy and academic resilience, and expands the scope of corresponding studies, which includes the mediating role of motivation and emotion regulation. In addition, this paper also points out the direction of work in the field of education that helps students, teachers and parents to provide strategies to effectively cope with students' academic difficulties by regulating motivation and emotions. This paper also provides good angles and examples for future related psychological research.

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