

The Impact of a Growth Mindset on the Academic Performance and Learning Motivation of Secondary School Students in China

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Abstract: The Growth mindset is a hot issue in educational psychology, and some researchers have found that the growth mindset has a significant influence on Chinese secondary school students' motivation and academic performance. However, the scope and effect of its impact still lack a unified explanation. Therefore, this paper examines the effect of a growth mindset on Chinese secondary school students' learning motivation and academic performance. Using the literature review methodology, this study first elaborates on the definition and characteristics of the growth mindset. Then, it analyzes the influences of a growth mindset on Chinese secondary school students' studying motivation and academic performance respectively. Ultimately, it discusses and concludes the whole study and makes some suggestions for future research. For instance, future studies may concentrate more on long-term research that follows participants for several years to gain a more comprehensive understanding the role of a growth mindset. In conclusion, this paper finds out that the growth mindset directly boosts the motivation of Chinese secondary school learners, while also indirectly contributing to higher levels of scholastic performance.

1 INTRODUCTION

The growth mindset, recognized as a constructive mental approach, has gained widespread application in the field of education. Dweck (2010) first proposed that individuals with growth mindsets believed that through hard work, practice, and perseverance, they could enhance and develop their abilities, especially cognitive and academic skills. In contrast, those with a fixed mindset tended to think that abilities were innate and could hardly be changed. Over the past few years, the growth mindset has been increasingly gaining popularity in educational psychology research, as it might promote students' academic performance and learning motivation.

China is widely known for its highly competitive education system, and secondary school students face tremendous academic pressure in the learning process. The traditional Chinese education system, which attaches great importance to rote memorization, has been proven to give rise to the development of a fixed mindset among students, which means they tend to believe that their intelligence is innate and can hardly be changed. This pessimistic belief results in a decline in the level of

learning motivation and academic performance. Therefore, it is of great importance to investigate how a growth mindset impacts academic performance and motivation among Chinese secondary school students, as this could offer an alternative approach to enhance students' overall educational outcomes.

With the use of a literature review methodology, this research will evaluate and analyze previous research, illustrating the influences of the growth mindset on the academic performance and motivation of Chinese secondary school students. The findings aim to provide educators with references to effective teaching strategies that can enhance Chinese secondary school students' learning motivation and educational performance.

2 INTRODUCTION TO THE GROWTH MINDSET

This paragraph will provide an introduction to the important psychological variable of the growth mindset, briefly describing its definition, characteristics, and role.

2.1 Concept Introduction

When it comes to how individuals view intelligence and learning, their perceptions can be generally categorized into two views or attitudes, which can also be referred to as two different mindsets. Dweck demonstrates that individuals who hold a fixed mindset always complain about their static and unchangeable intelligence, which means they think that intelligence is naturally determined by innate factors such as genetics. In comparison, those with the growth mindset regard intelligence as something can be promoted over time through hard work, thus enabling them to persist through difficulties and challenges. Meanwhile, Dweck (2010) argues that apart from intellectual variability, a growth mindset can also encompass the emotional and cognitive abilities. Furthermore, Ng further illustrates that secondary school students with a growth mindset would learn by a mastery approach. More precisely, they are prone to reach an advanced level of self-regulation to cope with difficult tasks and put in effort to learn even after failures. Hence, encouraging a growth mindset is instrumental in enhancing their educational performance (Ng, 2018).

2.2 Characteristics

Students with a growth mindset generally share several characteristics: belief in efforts, regarding challenges as opportunities to progress, and positive attitude toward educational feedback. The most distinguishing feature of students who hold the growth mindset is that they hold a firm belief in efforts, as skills and capabilities can be steadily improved with continuous effort. Students with a fixed mindset regard intelligence as something innate and unchangeable, therefore, they do not like effort and view efforts as a waste of time. Alternatively, those possessing a growth mindset realize that competencies can be cultivated through ongoing effort. Hence, when encountering obstacles during the learning process, they would be motivated to continuously work hard to overcome those challenges, even if the progress is slow (Dweck, 2010).

The second characteristic is that students with the growth mindset have a greater tendency to regard failures as chances to learn rather than obstacles to success. Research involving 3,000 American secondary school students conducted by Yeager et al. demonstrates that embracing challenges helps individuals build confidence and resilience during the course of learning, thus enabling learners who have a

growth mindset get better academic outcomes (Yeager et al., 2016). To illustrate more, once convinced that challenges provide the best opportunities for development, students would push their limits to enhance their capabilities rather than stay in their comfort zones.

Another obvious feature would be the positive attitude toward educational feedback. Individuals adopting the fixed mindset may interpret feedback from educators as negative criticism revealing their drawbacks and inadequacy in learning, while those with the growth mindset are more inclined to welcome them as strategies for improvement (Dweck, 2010). Convinced that feedback from educators can provide valuable insights, they would make necessary adjustments to keep improving.

3 THE IMPACT OF THE GROWTH MINDSET ON ACADEMIC PERFORMANCE AMONG CHINESE SECONDARY SCHOOL STUDENTS

According to the analysis of previous studies, it has been confirmed that a growth mindset is beneficial to scholastic performance among secondary school students in China. Dweck (2010) first illustrates that individuals with a growth mindset consider that their skills can be progressively developed through persistent effort, which means they regard challenges as opportunities to learn, contributing to their continuous progress and long-term success. The measurement methods of this survey include behavioral observations and interviews, and the data analysis methods involve case studies and comparative analysis. Findings indicate that the growth mindset can contribute to students' academic achievement due to their resilience and optimism when facing failures and challenges. However, one of the obvious limitations of this study is the cultural bias, as a growth mindset has varying effects on students in different learning environments. Consequently, future studies may further investigate the specific impacts of the growth mindset within a certain learning environment.

In Chinese secondary schools, students' academic performance is a crucial indicator of their abilities and their potential for advancement to higher education. As a result, plenty of literature has explored the relationship between the growth mindset and the

educational performance of Chinese secondary school students. A survey conducted by Wang et al. involves adolescents aged between 12 and 16 from several secondary schools in China (Wang et al., 2020). The methodology of this research involves the Theories of Intelligence scale developed by Carol Dweck, students' academic grades, and Sherman's self-affirmation scale. When it comes to the data analysis methods, Wang et al. apply the structural equation modeling to figure out the association between the growth mindset and students' academic grades. Meanwhile, moderation analysis was also used to explore how self-affirmation moderates the influence of a growth mindset on students' learning outcomes, as self-affirmation can help students maintain positive self-evaluations to enhance their performance in academic contexts. This research suggests that Chinese secondary school students with the growth mindset are prone to have higher degrees of self-affirmation that can significantly enhance their cognitive abilities and emotional resilience, ultimately improving their academic outcomes. However, limitations include that apart from the influence of a growth mindset, the potential self-report bias, to be more specific, factors like diverse school environments may also have an impact on students' academic performance. Therefore, to get more exact results, future research should incorporate objective measures to decrease the potential self-report bias. Similarly, the research conducted by Yun-Fang also reveals students with growth mindsets usually present stronger critical thinking abilities. This mediating variable enables students to address complex issues with greater creativity and adaptability, thus leading to extraordinary learning outcomes (Yun-Fang, 2024).

Compared to exploring the interaction effects of students' inner abilities, King et al. (2021) focus more on their outer background, analyzing the association between the growth mindset and educational outcomes, particularly focusing on how socioeconomic status (SES) moderates this relationship. The measurement methods of this survey include the Theories of Intelligence scale conducted by Carol Dweck, students' academic performance measured by standardized test scores, and SES assessed through parental occupation and income. As for the data analysis methods, the authors regulate variables such as the grade level that may influence academic performance. Findings illustrate that the growth mindset can only predicted academic results for students with wealthy parents, which means economic resources and family support may buffer or enhance students' academic success.

However, limitations of this research include the limited SES measurement and individual differences. On the one hand, King and Trinidad ignored factors like community environment and school resources that may also impact the SES of students. On the other hand, individual differences like personal motivation levels and characteristics were not fully addressed in the analysis. Consequently, future studies should more fully consider the factors that influence students' SES while taking into account individual differences, which can provide a more accurate measurement of the connection between a growth mindset and Chinese secondary school students' academic performance.

Above all, these studies all select a moderating variable to look into the relationship between the growth mindset and students' educational outcomes, including inner abilities as well as outer factors, and they all agree that the growth mindset can positively influence Chinese secondary school students' academic performance. Therefore, it is now clear that adopting a growth mindset is highly recommended for secondary school students in China, future research may concentrate on how to help students cultivate this mindset to enhance their educational performance. For example, make better use of collective methods including government, schools and teachers to guide students to adjust their mindsets.

4 THE IMPACT OF THE GROWTH MINDSET ON LEARNING MOTIVATION AMONG CHINESE SECONDARY SCHOOL STUDENTS

When considering the link between a growth mindset and the learning motivation of Chinese secondary school students, numerous studies have illustrated that the growth mindset could contribute to the boost of learning motivation. By using regression analysis, Dweck (2013) first illustrates that a growth mindset has a constructive influence on learning motivation. With a higher level of persistence, students with the growth mindset are more disposed to undertake efforts-demanding tasks and consider challenges as opportunities to learn. This way, they will foster greater intrinsic motivation than those possessing the fixed mindset. Moreover, Rhew et al. (2018) further confirm that the growth mindset has a constructive

and long-lasting impact on secondary school students' learning motivation, especially the reading motivation. The researchers administer a questionnaire on reading motivation to 1,920 secondary school students, which consisted of 53 questions on a Likert-type scale of 1 to 4. Meanwhile, they also conduct a controlled experiment using the growth mindset intervention. Students in the comparison group exhibited a fixed mindset, while those in the treatment group underwent a six-week intervention aimed at promoting a growth mindset. The results of this experiment revealed a significant difference between the two groups, with students in the treatment group demonstrating notably higher levels of reading motivation compared to their counterparts in the comparison group. These findings suggest that fostering a growth mindset can positively influence the study motivation of secondary school students. Although researchers employed various analytical models to validate the conclusions, the research still has limitations. For instance, this growth mindset intervention was short-term, therefore, it can hardly examine the lasting impact of a growth mindset. Therefore, future research may carry out long-term experiments to guarantee the accuracy of the result.

Another research conducted by Zhao et al. (2018) also demonstrates that a growth mindset can beneficially affect the learning motivation of Chinese secondary school students. This study involves 1,842 students across various grade levels from several secondary schools in a Chinese city, and it administers the Self-Regulation Questionnaire invented by Ryan and Connell to measure each student's learning motivations. With analyses of the descriptive statistics and correlations, this study indicates that students possessing a growth mindset tend to obtain a higher degree of self-directed motivation to learn, as the growth mindset enables individuals to view failures as chances to progress. This finding corresponds with earlier research outcomes that the growth mindset is beneficial for learning motivations among Chinese secondary school students. However, it cannot be denied that this study faces several limitations, the most apparent one would be the ignorance of cultural difference. Influenced by Confucianism, Chinese students tend to consider expectations of others as expectations of their own motivation, which may disrupt the results of learning motivation. Thus, future research may study the relationships between a growth mindset and learning motivations in cross-cultural contexts.

To illustrate further, Dong et al. (2023) delineate two main types of motivation, and they highlight that

Chinese secondary school students possessing a growth mindset have a greater tendency to obtain stronger intrinsic motivation in the mathematics learning process. With 266 secondary school students in China ranging from grade 7 to grade 9 involved, the researchers used the questionnaire in the Program for International Student Assessment (PISA) 2009 survey to analyze students' intrinsic learning motivation toward mathematics. Findings indicate that the learning motivation can be divided into the intrinsic motivation like personal interest, and the extrinsic motivation such as family expectations or external rewards. Generally, the intrinsic motivation is more effective and powerful than the extrinsic motivation. Meanwhile, students holding growth mindsets will have intrinsic learning motivations while those with the fixed mindset are prone to be motivated by external factors. Therefore, the study concluded that Chinese secondary school students holding the growth mindset were more disposed to display enhanced motivation, which is similar to previous research results. The most obvious limitation is that researchers only measured the motivation in grade 7 students, which means further studies need to collect the data more comprehensively. In addition to the research mentioned before, a study conducted by Bai and Wang (2023) also illustrates that a growth mindset is of great benefit to students' learning motivation during self-regulated studying. With a total of 690 students participating in, researchers used the intrinsic value scale to examine students' learning motivation. The findings explore that growth mindsets are positively associated with the degree of students' learning motivation, demonstrating that students possessing a growth mindset will show stronger motivation during the learning process than those with a fixed mindset.

Overall, previous studies confirm that a growth mindset and the learning motivation are positively related, which means learners who possess a growth mindset are more inclined to have higher motivation during the course of learning. This finding has important implications for educators to motivate Chinese secondary school students to learn.

5 DISCUSSION AND SUGGESTION

After reviewing and analyzing the relevant research, it was clear that for secondary school students in China, developing a growth mindset will

constructively influence the academic performance. However, it should be noted that these studies all select a moderating variable, such as inner self-affirmation or outer background. This suggests that a growth mindset indirectly influences secondary school learners' academic performance with the help of other variables, thus further illustrating the close connection between a growth mindset and learners' educational performance. Therefore, in terms of suggestions, it is highly recommended for educators to strengthen the cultivation of the growth mindset among Chinese secondary school learners. Schools can guide students to cultivate a growth mindset through positive class interactions. For instance, teachers can provide positive feedback in time, highlighting the importance of personal efforts rather than grades (Wang et al., 2020). This may encourage students to regard failures as opportunities for success. Moreover, it is also significant to enhance family support. Parents should encourage children to learn from failures and place greater emphasis on the process rather than results, thus enabling children to be more self-confident and optimistic towards studying.

Regarding the connection between the growth mindset and students' motivation to learn, the previous research indicates that Chinese secondary school learners with the growth mindset are prone to have a generally higher degree of learning motivation than students who do not possess it. With better persistence, they are more motivated to participate in challenging tasks such as mathematics studying and article analyzing. Therefore, teachers and parents should cooperate to establish a supportive learning environment (Zhao et al., 2018). In this environment, students would feel more optimistic during the educational process, thus enhancing the cultivation of a growth mindset.

Despite the relevant research demonstrating the impact of the growth mindset, several areas still require further investigation. On the one hand, some current studies rely on short-term data, which means the long-term results can hardly be observed. Hence, future research may concentrate more on long-term studies that observe participants for years or decades to have a better insight in the role of a growth mindset. On the other hand, future research may explore the direct connection between a growth mindset and learners' academic performance, as most of the recent studies concentrated on a moderating variable between them.

6 CONCLUSION

In conclusion, the purpose of this study is to investigate the impact of a growth mindset on the academic performance and learning motivation of secondary school students in China. After comprehensively analyzing the relevant literature, this study figures out that the growth mindset has a direct constructive influence on the studying motivation of Chinese secondary school students, meanwhile, it can indirectly enhance their academic performance. Based on these findings, the paper argues that it is highly recommended for educators to promote the development of a growth mindset among secondary school students in China. However, there are several limitations in this essay including the lack of long-term effects of a growth mindset, since most research involves short-term outcomes. Therefore, further studies may focus more on longitudinal studies that track participants over several years to gain a deeper understanding of the influence of a growth mindset.

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