

The Impact of Family Encouragement on Middle School Students' Autonomous Learning Motivation under the "Double Reduction" Policy: The Role of Self-cognition

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Abstract: The "Double Reduction" policy aims to reduce students' homework burden and promote comprehensive development. In this context, this study explores the impact of family encouragement on students' autonomous learning motivation and investigates the role of self-cognition. In May 2023, a questionnaire survey was conducted among 1,087 students at a middle school in Guangdong, using the Academic Encouragement Scale (AES), SDQII Self-Description Questionnaire (Adolescents), and the Autonomous Learning Motivation Scale. SPSS 27.0 was used for correlation and regression analysis. The results show that: (1) There is a significant positive correlation between family encouragement, self-cognition, and autonomous learning motivation among middle school students ($P < 0.01$). (2) Both family encouragement and self-cognition can significantly positively predict autonomous learning motivation ($P < 0.01$). (3) Self-cognition plays a partial mediating role in the impact of family encouragement on autonomous learning motivation. Under the "Double Reduction" policy, family encouragement has a significant positive predictive effect on middle school students' autonomous learning motivation, and there is a correlation between the three. Moreover, self-cognition can enhance the impact of family encouragement on autonomous learning motivation, serving a partial mediating role.

Keywords: Middle School Students; Double Reduction Policy; Self-cognition; Family Encouragement; Autonomous Learning Motivation

1. Introduction

In 2021, China issued the "Opinions on

Further Reducing the Homework and After-school Tutoring Burden of Students in Compulsory Education", a policy aimed at reducing students' homework burden, emphasizing the cultivation of students' thinking abilities and creativity to improve the quality of education. One of the common challenges faced by the educational community is how to ensure the quality of learning and academic achievement of students while reducing their homework burden.

Under the backdrop of this policy, this study aims to explore the impact of family encouragement on students' autonomous learning motivation, with a special focus on the role of self-cognition. Autonomous learning motivation is considered a key factor for students to adopt deep learning strategies and exhibit creativity, while self-cognition is one of the significant internal factors influencing students' learning motivation.

1.1 Family Encouragement in Education and Autonomous Learning Motivation

Encouragement is a common social support strategy in education, parenting, and counseling. Wong [1] elucidates that encouragement is "the expression of affirmation through verbal or other symbolic representations to instill courage, perseverance, confidence, inspiration, or hope, to face challenging situations or realize potential". A study [2] indicates that encouragement is associated with higher academic effort, self-efficacy, and academic achievement. Researchers [3] also demonstrate that encouragement interventions can effectively enhance students' interest in pursuing research careers.

Family encouragement in education specifically refers to encouragement within the

family context. Lin and Flores [4] found that individuals from collectivist cultures, such as China, might pay more attention to others' opinions, which could significantly affect the impact of encouragement. Thus, under the implementation of the "Double Reduction" policy, it becomes particularly important to explore family encouragement in education in China. Wong [5] and others propose that encouragement is positively correlated with hope and academic self-efficacy and can predict self-efficacy, hope, and academic engagement.

Autonomous learning motivation falls within the category of "autonomous motivation" in Self-Determination Theory, including identified regulation, integrated regulation, and intrinsic motivation, which are types of motivations that reside within the individual. Research [6] indicates that autonomous learning motivation is a crucial factor in stimulating learners to engage in learning activities, sustain initiated learning activities, and direct individuals' learning activities towards certain learning goals.

When individuals satisfy their basic psychological needs, they engage in self-determined exploration based on their spontaneous interests, acquiring new information, skills, and experiences. This, when applied to learning, results in autonomous learning motivation, prompting individuals to engage in self-directed learning, autonomously plan their learning, and enhance their sense of happiness and satisfaction in the learning process. Learning motivation has a positive contribution to guiding students in fulfilling academic responsibilities, achieving academic goals, and engaging in deep learning [7]. The "Double Reduction" policy advocates for active and autonomous learning, where autonomous learning motivation can play a significant role in promoting such learning processes.

In a 2018 study on the motivation and encouragement of Arab students in learning English, Danial [8] primarily identified factors affecting students' motivation intensity and attitudes, which are related to the desire to learn English and the role of parental encouragement in this process. The study concluded that encouragement from parents within the family significantly increases the motivation intensity for learning English and

plays the most crucial role. Garner [9], through his research, holds the view that parents act as the primary mediator between cultural environments and influence as an active role in intervening in their child's learning, typically by expressing interest in their language learning situation or encouraging them to succeed. This can lead to a higher level of learning attitude in the child, thus having an effect on enhancing learning motivation. In Xia [10]'s study "The Impact of Parental Encouragement on Reading Motivation: The Mediating Role of Reading Self-Concept and the Moderating Role of Gender," path analysis showed that parental encouragement is directly related to children's reading motivation and indirectly related to reading self-concept. Furthermore, the impact of parental encouragement on children's motivation has a greater effect on boys than on girls.

1.2 Self-cognition and Its Mediating Role

Self-cognition refers to the insight and understanding of oneself, including self-observation and self-evaluation. For scholars abroad, self-concept is more commonly discussed than self-cognition. Some researchers believe that self-concept and self-cognition have a significant overlap in their definitions and thus treat them as the same concept. Scholars have conducted extensive research on both the theoretical and application levels. Therefore, in this study, self-cognition and self-concept are treated as the same concept.

Numerous domestic studies have explored the mediating role of self-cognition. Jiang Bo and Liu Jingzhi [11], referencing the mediation effect testing procedure of Wen Zhonglin [12] et al., concluded that self-cognition and self-evaluation have a significant mediating effect between social support and life satisfaction. Pang Ying and Hong Wei [13] considered self-cognition as a mediating variable in the impact of social support on depression, with the mediating effect accounting for 86.5% of the total effect. Hao Liangyue [14] found that academic self-concept played a mediating role between teachers' emotional support and students' engagement in learning.

This study posits that self-cognition might be a mediating variable in the relationship between family encouragement and autonomous

learning motivation. Firstly, Frome and Eccles [15] argue that parental encouragement is crucial for developing a child's self-concept and capabilities, with a correlation existing between parents' perceptions of reading and their children's reading self-concept. Mondell and Tyler [16] found that capable parents provide more direct help, encouragement, and positive emotional influence in their interactions with their children, which directly affects the relationship between the parents' capabilities and the children's reading self-concept. Additionally, based on Van Soom's study [17] on the relationship between autonomous motivation, academic self-concept, and academic achievement among students enrolled in STEM courses, there exists a small but significant positive correlation between academic self-concept and autonomous motivation. The study also found significant gender differences, with female students having higher academic achievements and autonomous motivation but lower academic self-concept compared to male students. Furthermore, there was no significant correlation between autonomous motivation and academic self-concept among female students.

1.3 This Study

This research, set against the backdrop of China's "Double Reduction" policy and the current state of domestic and international research, explores the family encouragement education, self-cognition, and autonomous learning motivation of middle-grade students. Under this policy, the "reduction" might lower children's learning motivation, but through family encouragement education and higher levels of self-cognition in children, it is possible to promote the autonomy and motivation of their learning, achieving better educational outcomes. Thus, effectively realizing the goal of "reducing quantity without compromising quality," which holds significant implications and reference value for family education, student academic performance, and their healthy growth. Based on this, the study proposes the following hypotheses:

1. There is a correlational relationship among the three variables: family encouragement, self-cognition, and autonomous learning motivation;

2. Self-cognition plays a certain role in the impact of family encouragement on autonomous learning motivation.

2. Research Methods

2.1 Participants

An online test was conducted with 1,087 students from a middle school in Guangdong, with all 1,087 questionnaires returned, achieving a 100% response rate. Among the participants, 577 were male (53% of the respondents) and 510 were female (47%); including one 10th grader, two 8th graders, and 1,084 7th graders. Of these students, 931 were studying in their hometowns, and 156 were studying away from home, approximately a 6:1 ratio. Seventy-three had both parents working away from home, 271 had one parent working away, 738 had both parents working locally, 991 had parents who were together, 36 had divorced parents, 24 were from remarried families, 15 were from single-parent families due to widowhood, and 21 had unspecified situations. Additionally, all these students had experienced the "Double Reduction" policy.

2.2 Research Instruments

This study employed a combination of quantitative and qualitative research methods. The survey questionnaire is divided into four parts:

The first part measures the students' family background information, including personal information of the students and their parents, educational background, parenting style, family social class, etc.; the second part measures the academic encouragement perceived by the students; the third part measures the level of students' self-concept; the fourth part measures the level of students' autonomous learning motivation.

The second part used the "Academic Encouragement Scale (AES)" developed by Wong et al., which divides and measures the encouragement received by students (focusing on effort towards challenges and encouragement of potential in two dimensions) with 10 items. It is distributed in two dimensions of encouragement: Challenge-Focused Encouragement (CFE) and Potential-Focused Encouragement (PFE). The former addresses difficult situations by

instilling confidence, perseverance, and strength, while the latter helps individuals to realize their potential and strive for higher goals. In this study, the Cronbach's alpha coefficient of this scale is 0.988, demonstrating its validity and high internal consistency related to the standard.

The third part adapted the "SDQII Self-Description Questionnaire" compiled by Gregory J. Boyle and revised by Wu Wenyi [18], using 40 items to divide and measure students' three academic self-concepts (from the dimensions of verbal, mathematics, and general school situation) and one non-academic self-concept, i.e., general self-concept. The scale has a Cronbach's alpha coefficient of 0.952 in this study, indicating good reliability, validity, and cross-cultural applicability.

The fourth part on autonomous learning motivation used the Comprehensive Relative Autonomy Index (CRAI) compiled by Sheldon et al. and revised by Zhou Jiamin [19],

consisting of 24 items across 6 dimensions, measuring external regulation, identified regulation, negative introjection, positive introjection, amotivation, and intrinsic motivation, where CRAI = intrinsic motivation + identified regulation + positive introjection - negative introjection - external regulation - amotivation. After a pilot test, the autonomous learning motivation scale part had a Cronbach's alpha coefficient of 0.904.

3 Results

3.1 Descriptive Statistics of Major Variables

The correlation among the variables in this study is shown in Table 1. It is found that the correlation between family encouragement and autonomous learning motivation is 0.458, with self-cognition is 0.491, and between autonomous learning motivation and self-cognition is 0.697, with all correlations being significant at the $P < 0.01$ level.

Table 1. Descriptive Statistics and Correlation Analysis among Variables

Item	<i>M</i>	<i>SD</i>	1	2	3
1. Family Encouragement	4.23	1.57	1		
2. Self-Cognition	3.86	.71	.491**	1	
3. Autonomous Learning Motivation	.32	.49	.458**	.697**	1

Note:** $P < 0.01$

3.2 Linear Regression Analysis

Using the total scores for self-cognition, family encouragement, and the CRAI for autonomous learning motivation, significant correlations were found among them. Further analysis was conducted using the mediation effect testing procedure referenced from Wen Zhonglin and others. As shown in Table 2, Model 1 is significant with a standardized coefficient β of 0.453, $P < 0.001$; Model 2 is significant with a standardized coefficient β of 0.434, $P < 0.001$; Model 3 is significant with standardized coefficients β of 0.179 and 0.642, $P < 0.001$.

With self-cognition as a mediating variable, exploring the relationship and internal mechanisms between family encouragement in education and autonomous learning motivation among middle school students, the mediation effect model is illustrated in Figure 1.

The relationships among variables are described by regression equations, with family encouragement as X, self-cognition as M, and

autonomous learning motivation as Y, resulting in the following regression equations:

Model 1: $Y = cX + e_1$

Model 2: $M = aX + e_2$

Model 3: $Y = c'X + bM + e_3$

From the above, $c = 0.458$, $a = 0.434$, $c' = 0.179$, and $b = 0.642$. Since the coefficients related to "self-cognition" variable a and b are significant, and c' is significant, this study is considered to have partial mediation effects.

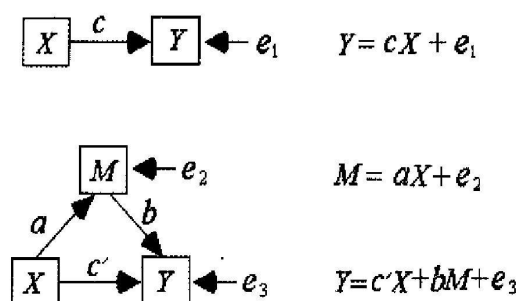


Figure 1. The Mediation Model of Self-Cognition among Family Encouragement and Autonomous Learning Motivatio

Table 2. Linear Regression Analysis among Variables

Regression Model		Overall Fit Indicators			Significance of Regression Coefficients	
Dependent Variable	Predictor Variable	R	Adjusted R ²	F	Standardized Coefficients β	P
1. Autonomous Learning Motivation	Family Encouragement	0.458	0.209	287.266	0.458	<0.001
2. Self-Cognition	Family Encouragement	0.434	0.188	252.310	0.434	<0.001
3. Autonomous Learning Motivation	Family Encouragement	0.737	0.543	645.808	0.179	<0.001
	Self-Cognition				0.642	<0.001

4. Discussion

4.1 The Relationship among Family Encouragement, Self-cognition, and Autonomous Learning Motivation in Middle School Students under the Double Reduction Policy

The study found a significant positive correlation between family encouragement and self-cognition in middle school students, with family encouragement positively predicting self-cognition. Research by Frome and Eccles shows that parental encouragement helps develop a child's self-concept, and Mondell and Tyler's study found that more direct encouragement from parents to children in their interactions directly affects the child's self-concept. It is evident that there is a high correlation between family encouragement education and the level of self-cognition among middle school students. The affirmative and supportive encouragement from parents in the form of verbal or non-verbal language can bring positive emotional experiences to the child, thus promoting their confidence and enhancing their level of self-cognition.

There is a significant positive correlation between family encouragement and autonomous learning motivation among middle school students, with family encouragement positively predicting autonomous learning motivation. This is similar to the conclusions of Daniel et al.'s study, where the motivation intensity of students is related to the encouragement from their parents. More encouragement and affirmation from parents can promote the child's motivation towards learning, making them more willing to engage in learning autonomously.

There is a significant positive correlation between self-cognition and autonomous

learning motivation, with self-cognition positively predicting autonomous learning motivation. This result is similar to the findings of Van Soom's study, which shows a significant positive correlation between self-concept and autonomous motivation. Additionally, Guo Guai's research [20] indicates that after intervention in learning motivation, junior high school students' academic self-concept improved, leading to more positive self-cognition. Therefore, it is evident that the level of self-cognition and autonomous learning motivation can influence each other. By enhancing their self-concept and having more confidence in their abilities, middle school students can improve their confidence in learning and strengthen their motivation for autonomous learning. Furthermore, self-cognition plays a partial mediating role between family encouragement and autonomous learning motivation.

4.2 The Mediating Role of Self-cognition in the Impact of Family Encouragement on Autonomous Learning Motivation

This study considers self-cognition as a mediating variable to explore the relationship and internal mechanisms between family encouragement and autonomous learning motivation in middle school students. Through data analysis, it is evident that family encouragement can directly influence middle school students' autonomous learning motivation and also affect it indirectly through the partial mediating role of self-cognition. This result reveals the significant role of self-cognition between family encouragement and autonomous learning motivation.

Family encouragement can significantly positively predict autonomous learning motivation, indicating that the deeper the level of family encouragement, the more willing students are to engage in active learning. This

conclusion resonates with the findings of other scholars, such as Li Jingmei [21], who discovered that cooperation between home and school and parental involvement have an extremely significant impact on junior high school students' academic achievements, with parental expectations playing a partial mediating role between home-school cooperation and academic achievements. In today's society, families place great emphasis on children's academic performance, which has become a widespread social phenomenon. Exploring how to enhance middle school students' autonomous learning motivation to cultivate new talents for the new era has become an important topic.

Family encouragement can indirectly influence autonomous learning motivation through middle school students' self-cognition, that is, affecting autonomous learning motivation through the partial mediating role of self-cognition. Marsh [22] and others divided self-concept into academic self and non-academic self and developed the SDQII Self-Description Questionnaire (Adolescents) based on this. Research by Gao Jie, Liu Meng, Bai Jifang, and others [23] found that individuals with high proactive personality traits exhibit a more positive learning attitude and persistently achieve goals compared to those with low proactive traits. This also enlightens us that improving students' autonomous learning motivation will bring greater benefits to them and society, promoting the healthy and positive development of both the students and society.

4.3 Significance of the Study

The significance of this study lies in providing a theoretical foundation and empirical research results to support policies encouraging family encouragement education and cooperation between home and school. Through the analysis of 1,087 data points, we discovered the significant predictive effect of family encouragement education and self-cognition on students' autonomous learning motivation. These results highlight the importance of family education in shaping students' learning motivation and also underscore the significant role of self-cognition in the learning process of students. Therefore, policy encouragement of family education can help enhance students' autonomous learning motivation, thereby

fostering deeper learning and creative thinking. This has important implications for education policymakers and practitioners. The home and school are the two most crucial environments in the growth process of students, and their close cooperation is essential for cultivating students' autonomous learning motivation. The findings of this study provide a basis for policymakers to emphasize the role of family education in educational policies and advocate for the concept of home-school co-education.

5. Limitations and Future Directions

This study explored the relationship among middle school students' autonomous learning motivation, family encouragement, and self-cognition, preliminarily concluding that there is a correlational relationship among them and further exploring the role of self-cognition in the relationship between family encouragement and autonomous learning motivation. This can help educators effectively intervene psychologically with middle school students. However, this study also has some limitations. First, there may be cognitive biases among students during testing, which could affect the accuracy of some statistical analysis results. The data used for regression analysis in this study do not conform to a normal distribution, thus the results should only be taken as a reference. Secondly, our questionnaire data came from a single school, which may lack representativeness, limiting the generalizability and extendibility of our findings. Therefore, future research should expand the sample scope to cover more regions and schools as much as possible, obtaining more data to validate our findings and further refine the analysis to achieve more representative conclusions.

In summary, despite some limitations, this study provides important theoretical support and empirical research results for policymakers and educational practitioners. By strengthening the cooperation between families and schools to jointly promote the cultivation of students' autonomous learning motivation, we can better realize the effective development of education and improve students' overall qualities. It is hoped that in the future, more extensive and regionally diverse participant data can be collected for deeper research and discussion.

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