

The Influence of Family Factors on Middle School Students' Academic Achievements

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Abstract: Under the current Chinese education system, academic performance is still a hot issue that is widely concerned by people. Academic performance reflects students' learning outcomes, which not only affects students' future development, but also reflects the quality of school education. Therefore, in-depth exploration and analysis of the reasons for differences in academic performance remains of practical significance. Middle school students are in their adolescence. Adolescents are a critical period of personal growth, and their academic performance is easily affected by a combination of factors. Family education plays a critical role in adolescent academic achievement. Based on the CEPS baseline survey data from the China Education Tracking Survey, this paper analyzes the basic situation of the family environment of adolescents, and explores the effect of various family factors on students' academic achievement through correlation analysis. Finally, based on the analysis of the above research results, we found that family relationships, parental education, and parental involvement are positively related to students' academic performance, and proposed relevant suggestions for improving junior high school students' academic performance.

Keywords: family relationship, parents' education, parents' participation, students' academic performance

1. Introduction

Expert Wu Kangning's research on families shows that, "Family education has an intangible impact on children. Children gradually form their initial life experiences and personalities in family life which is laying the foundation for future education." Family education is the basic education before students receive social education. Family education is an important supplement to other social education and an integral part of the entire social education. Therefore, family education has received widespread attention from families and even the entire society.

Academic performance can most directly reflect educational outcomes, and the quality of a child's academic performance is influenced by multiple factors. Children's academic achievements and future life development direction are related to the interests of families which is affecting the well-being of many families and the future development of the country.

By analyzing the differences in individual results caused by influencing factors, regularly summarize the reasons, deeply explore the problems, and provide reasonable suggestions based on the problems.

2. Literature Review

Academic performance is an important predictor of good social adjustment and personal status of students [1]. It plays a crucial role in the learning and achievement of Chinese students. Kirmayer pointed out that family factors that affected students' performance including family relationships, family conditions, frequency and time of activities with children, parents' attitudes towards school, whether parents were interested in students' school experiences, and parents' expectations [2]. He proposed that family was the main place for personality formation and development.

Parental involvement refers to parents' interest, understanding and willingness when they participate in children's activities [3]. Negative parent-child relationships (such as parent-child conflicts) can lead to high levels of negative emotions such as anxiety and depression [4]. Positive and effective parent-child interaction may make children feel more accepted by their parents, resulting in more positive self-evaluation and cognition. Good and effective parent-child interaction can also reduce the risk of individual depression and effectively improve the mental health level of middle school students by improving individual self-esteem and having a more positive self cognition [5]. If the family education method is not appropriate, or parents do not invest enough attention in their children, it can lead to intentional delays in completing homework, ultimately leading to a decline in academic performance [6].

The family education level also influences students' academic performance. In a study by Xu, it was found that parents' educational background was positively related to their children's academic performance, and the higher their parents' education, the more likely their children were to achieve higher grades [7]. Xie et al. investigated the effect of parents' educational level on their children's academic grades, and the study revealed that parents' educational level had a significant impact on their children's academic performance, while parents' occupational types had no significant impact [8]. The research results of Pang et al. showed that the higher the educational background of parents, the stronger their children's ability to handle problems, and the greater the impact of their father's educational background on their children's performance compared to their mothers [9]. Research by Huang claimed that a person's education level not only reflected their learning ability and potential for future development, but also affected their children's future education level and career choices [10]. Differences in parents' education levels also lead to differences in their children's educational concepts and daily lifestyles. The same is true in different countries and different educational backgrounds.

Parents with low socioeconomic status usually get less education, and they may think that cannot help students to get better academic achievement, that is, they lack self-efficacy towards tutoring children. The more parents believe that they cannot advance their children's academic performance, the less they participate in their children's academic development, which is not conducive to students' academic development. When students are in a beneficial and supportive family, their basic psychological needs are more satisfied, and they exercise in an environment with more hope, efficacy and resilience, also have an optimistic mindset (i.e., positive psychological capital) than other ordinary families which can improve their learning autonomy [11].

There are obviously differences in the impact of hidden family environmental factors such as family parents' educational level, parents' occupation, and family type on student performance. Among them, the family types of primary school students in the low group are mostly single parent families, with education levels below junior high school, even most children are raised by grandparents or grandmothers; However, most of the family types of high group primary school

students are core and whole families, with harmonious parents and high education level. Their daily life and learning are mainly taken care of by parents [12]. A study from Pakistan has shown that children with incompatible parents live in a family environment full of anger and resentment that can easily lead to extreme measures such as impatience, reprimand, or violence in the education of their children, which greatly affects children psychologically and their academic performance [13].

3. Research Methods and Design

3.1. Research Methods

This study adopts a quantitative research method to study the effect of parental involvement, family relationships, and parental education on middle school students' academic performance, and explore the relationship between these three aspects and middle school students' academic performance through correlation analysis of the data.

3.2. Research Design

3.2.1. Sample

Considering that this study requires a large sample size and the related subject matter, we select follow-up (CEPS) data under China Education Tracking Survey (2014-2015 academic year) based on a large number of retrieved survey data, and extracted data that can reflect three aspects of family relationships, parents' education level, and parents' participation in the study.

3.2.2. Data Processing Methods

We conducted correlation analysis respectively on questions related to the three aspects of our research as independent variables from the follow up questionnaire questions (CEPS) under the China Education Tracking Survey (2014-2015 academic year).

In terms of parental involvement, the questions are involved in a concrete analysis such as "Last week, did your parents check your homework every day?" "Last week, did your parents tutor your homework every day." "Your parents are strict with your homework or exams." "Your parents are strict with your Internet time." "Your parents are strict with your TV time." "How often do you visit museums, zoos, science museums with your parents?".

In terms of family relations, we selected three questions: "How is your relationship with your father?" "How is your relationship with your mother?" "How is your relationship with your parents?".

In the data processing of parents' educational level, we selected two items: "the educational level of children's father" and "the educational level of children's mother".

In terms of academic performance, we selected the "exam score" item that was the average of the original scores of Chinese, math, and English in the 2014 autumn mid-term exam.

3.2.3. Technical Development of This Study

Stata software for data analysis and Pearson correlation analysis are selected by following the method of "questionnaire research and analysis - in-depth analysis of relevant data - obtaining data results - explaining and drawing conclusions "to explore the relationship between variables which can draw research conclusions.

4. Data Analysis Results

The correlation analysis between 10 variables such as "How is the relationship between your parents?" and the "exam score" was conducted to reach a conclusion, as shown in the correlation coefficient matrix between the variables in Table 1. In order to concisely represent the results of the data analysis, we use TS to indicate the "exam score".

In terms of the family relationship factor, we use PR to indicate "the relationship between parents?", FR to indicate "the relationship with father?", MR to indicate the relationship with mother?".

Regarding the level of education of the parents, we use FE to indicate "the educational level father?", ME to indicate "the educational level of mother?".

With regards to the level of parental involvement, we use CJ to indicate "did your parents check your homework every day last week?", GH to indicate "Last week, did your parents tutor you in your homework every day?" ME to indicate "Are your parents strict with your homework or exams?" MP to indicate "Are your parents strict with your performance at school?" WT to indicate "The frequency of visiting museums, zoos, science museums with your parents."

Table 1: Correlation coefficient matrix between variables.

	TS	PR	FR	MR	FE	ME	CJ	GH	ME	MP	W T
T	1										
P	-.046**	1									
FR	.076***	-.302** *	1								
MR	.127***	-.255** *	.446** *	1							
FE	.240***	-.025** *	.069** *	.075** *	1						
ME	.232***	-.014	.045** *	.069** *	.679** *	1					
CJ	.050***	-.116** *	.178** *	.170** *	.180** *	.205** *	1				
GH	.038***	-.113** *	.202** *	.186** *	.225** *	.245** *	.637** *	1			
ME	.153***	-.113** *	.176** *	.192** *	.091** *	.095** *	.331** *	.281** *	1		
MP	.050***	-.105** *	.165** *	.175** *	.040** *	.048** *	.251** *	.248** *	.479** *	1	
WT	.137***	-.137** *	.189** *	.170** *	.270** *	.298** *	.286** *	.297** *	.165** *	.131** *	1

Notes: * $p < .01$, *** $p < .001$

5. Discussion

In terms of parental education, research has shown that parental education has a positive effect on students' academic performance. Parents' educational level is an important factor that affects their behavior. Parents with high educational levels pay more attention to the cultivation of their children's

comprehensive abilities, as well as support and guidance for adolescents. Parents with a low level of education pay more attention to their children's ability to take exams to a certain extent; Parents with a higher education level pay more attention to the cultivation of their children's comprehensive qualities. This conclusion is consistent with the research conclusions of other scholars [14].

In terms of family relationships, on the one hand, parental relationships could promote students' academic performance. Students with good parents' relationships have higher academic performance than students with poor parents' relationships, which indicates that with good parents' relationships, children are more likely to achieve higher grades. When parents have a harmonious relationship, it will improve the learning behavior of middle school students. On the other hand, harmonious parent-child relationships are positively associated with their children's academic performance.

With regard to parental participation, the degree of parental involvement in children's learning is positively associated with students' academic achievement. The more strict parents tutor their children's homework, the higher their likelihood of achieving higher grades. The interactions between parents and students are beneficial for students to get better academic achievement. The more parents communicate with their children, the more often they accompany their children in extracurricular activities, such as visiting museums, zoos, and science museums. These parent-child interactions help strengthen the parent-child bond and further promote student academic achievement. More importantly, the present study indicated that the above-mentioned factors affecting students' academic performance development may also interact with each other. For example, more educated parents are more likely to recognize the importance of accompany with children. They are therefore more willingly to actively involved in interactions with students. This positive parent-child interaction, in turn, further contributes to good family relationships. Therefore, this study argues that future research should not only focus on the effects of single variables on students' academic performance, but also need to examine the interactions between variables in depth. Only in this way will research be able to further clarify the mechanisms that influence students' academic achievement.

6. Implications

Based on the analysis results, this study proposes the following suggestions:

1. This study revealed that the harmonious connection between family members is beneficial for children to achieve relatively excellent results. Therefore, it is recommended that parents establish a harmonious family atmosphere and maintain good family relationships. And they also should spare enough time to communicate more with their children, care more about their growth, and allow them to receive care and encouragement from the company of their families. In particular, parents who entrust the responsibility of educating their children to educational institutions should actively communicate with their children more. They should understand students' ideas, pay more attention to students' growth, and reduce the indirect negative impact of low socioeconomic status of the family on their children's academic achievement. Moreover, parents can establish the home-school cooperation, communicate more with teachers, and jointly promote children's learning and development. In China, the education is almost a complete separation of the family and school, to a great extent undermining the role of education. The author suggests that parents can often contact the teacher, so that the teacher can have a deeper understanding of the child. They also can take the appropriate education method for the child. Parents can also know the details of what their children are learning at school and work together with teachers to promote their children's better development.

2. After our research, we found that parents' educational level has a significant impact on students' academic performance. We suggest that parents exchange family education experiences with each other and recognize the importance of family education. While improving their own knowledge level, they should pay attention to the scientificity of family education, establish scientific educational

methods and correct educational concepts, also improve parents' ability to educate children, in order to better stimulate parents' sense of self-efficacy and enhance their desire to teach children.

3. Family education plays an important role, and research has found that parental involvement is positively associated with students' academic performance. Therefore, we recommend that parents participate more in tutoring students' homework, accompany their children in extracurricular activities frequently, at the same time, strengthen quality education.

4. School education should be an important link between parents and students. Teachers should make full use of parent-teacher conferences and home visits to reach out to parents and get more parents involved in their students' education. The most common method of communication between parents and teachers is parent-teacher conferences. We can implement flexible arrangements for parents with tight schedules and change the way teachers unilaterally impart information during parent-teacher conferences. When teachers introduce good student learning and life, parents should be invited to ask questions as well as express their views and expectations of the school in order to achieve two-way communication of information. Therefore, it is recommended that teachers take the initiative to keep in touch with parents to communicate their educational philosophy, share their children's performance at school, and be able to understand the importance of caring for their children's education.

7. Conclusion

This study explored the mechanism of the impact of family environment on adolescents' academic performance. Specifically, the present study found higher the educational level of parents is related to more emphasis they placed on cultivating their children's comprehensive qualities. The closer the parents became to each other the higher the likelihood of children achieving higher grades; The more parents interact with their children, the more beneficial their children's academic performance will be. This study highlights the important role of family factors in influencing student achievement and provides guidance for how to properly leverage the role of family factors.

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