

The Effect of Home-School Cooperation on Adolescents' Academic Achievement

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Abstract. Academic achievement has been a long-standing concern in the community, with adolescents primarily learning and developing in the family and school environments. Therefore, cooperation and co-parenting between families and schools play an important role in improving adolescents' academic performance. This paper organizes and analyzes the results of existing studies on home-school cooperation on adolescents' academic achievement, and finds that home-school cooperation has a significant impact on adolescents' academic achievement. Parent-child communication, parental expectations, and learning engagement are factors that act as partial mediators in the influence of home-school cooperation on the academic performance of adolescents. Based on this conclusion, this paper summarizes some optimization strategies related to home-school cooperation to enhance adolescents' academic achievement. It is hoped that this study will inspire parents and teachers to acknowledge the impact of home-school cooperation and leverage the potential of family education, school education, and home-school cooperation to collaboratively enhance the academic achievement of adolescents.

Keywords: Home-school cooperation; adolescents; academic achievement.

1. Introduction

Good home-school cooperation will have an important impact on the development of adolescents, of which, the most social attention is still its effect on academic achievement. At present, numerous scholars from both China and other countries have verified the correlation between home-school cooperation and academic performance among teenagers. As an illustration, a meta-analysis examining the relationship between home-school cooperation and academic performance, after analyzing relevant studies between 1985 and 2006, found that the vast majority of studies revealed that the level of academic achievement was related to home-school cooperation [1]. Newer studies have also shown that home-school cooperation affects adolescents' learning ability and academic achievement, and that good home-school cooperation can help motivate students to increase their commitment to learning, which in turn promotes their academics and development [2]. However, most of the current empirical studies are biased towards analyzing one or several mediating effects, and there is a lack of literature that provides a comprehensive summary and comparison of the overall effect of home-school cooperation on the academic achievement of adolescents. Therefore, through the organization and analysis of existing studies on the impact of home-school cooperation on the academic performance of adolescents, this study seeks to investigate the relationship between home-school cooperation and its effects on academic achievement, as well as summarize and analyze strategies to enhance home-school cooperation, to effectively promote adolescents' academic achievement, and to give insights to educators.

2. Analysis Related to Home-school Cooperation

2.1. Overlapping Domains of Influence Theory and Home-School Cooperation

According to Joyce L. Epstein's Overlapping Spheres of Influence Theory, the process of home-school cooperation involves collaboration among schools, families, and communities, with overlapping factors that collectively impact children's education and development, focusing on both individual influences as well as the overlapping effects of all three. The theory emphasizes the equal

status of school and family in the home-school relationship, the overall goals and behaviors of all parties are the same, and the student is now regarded as the focal point and central position of home-school cooperation, rather than as an independent entity separate from it. Only through the cooperation of families and schools can maximize the goal of improving the academic achievement of young people [3]. In addition, Urie Bronfenbrenner's ecosystem theory also validates that both family and school have a significant impact on individual development. The theory states that schools and families are inextricably linked to each other and that both must work together to promote optimal student development [4].

Home-school cooperation refers to the collaborative process of schools and families working together to educate children, wherein parents participate in school education and schools provide guidance on family education, to facilitate the healthy and comprehensive development of young individuals [5]. Home-school cooperation is a Chinese term, while the corresponding international concept is "school, family, and community partnership". In the past, empirical research in this area has mainly centered on parental involvement (also translated as parental participation or parental involvement) and its impact on children, focusing on the various forms of parental interactions with children, teachers, and schools to promote their children's schooling and growth [1]. Scholars represented by Joyce L. Epstein of Johns Hopkins University, from a broader social-ecological system perspective, have broadened the scope of parental involvement from only participation in school-related matters to various forms of involvement across all aspects of children's education, including those about the family, school, and broader community, and have described the role of parental education and educational behaviors from a variety of dimensions, examined parental educational input and its functions from an all-round perspective and attempted to construct a "parent-involved" approach to parental education. The concept of "family-school-community" has been developed as an educational community and resource-sharing platform [6]. Therefore, in terms of the connotation and extension of the concept, "home-school cooperation" in the modern sense includes not only the traditional "parental input", but also a wide range of educational inputs and actions from the family, the school, and the community. A broader conceptualization of this notion implies that the responsibility for student's learning and growth should be shared among parents, educators, and community members.

2.2. Types of Home-school Cooperation Analyzed

As home-school cooperation moves from fragmented experience to systematic promotion, the important task is to construct a set of action frameworks that can effectively guide practice. In terms of the types of home-school cooperation summarized in existing studies, some are divided into spatial domains, such as family-based and school-based participation [5, 7], and even community-based participation [8]. Some are categorized by individual and collective participation [9]. Mingdi Lin, a Taiwanese scholar, synthesized the relevant literature and pointed out that there were overlaps in the categorization of modes, perspectives, types, and activities of home-school cooperation in existing studies, such as communicating, volunteering, learning at home, etc [10].

Epstein compiled a comprehensive set of home-school cooperation activities across all levels and subsequently analyzed and distilled them based on prior research, proposing that these activities can be organized into six primary categories, as shown in Table 1 [11].

Table 1. Six types and concepts of home-school cooperation [11].

Serial number	Name of type	Type definition
1	Parenting	Helping parents to improve their qualifications and promote a family environment in which their children are recognized as students
2	Communicating	Building effective forms of two-way communication between home and school. Communicating school teaching and children's progress
3	Volunteering	Recruiting and organizing parent volunteers to support the schoolwork

Table 2. Six types and concepts of home-school cooperation [11] (continued)

Serial number	Name of type	Type definition
4	Learning at home	Enable parents to understand how to give their children the knowledge and skills for a better experience
5	Decision making	Parents participate in school decision-making and develop parent leaders and parent representatives
6	Collaborating with community	Identifying and integrating community resources and services into the camp. Creating a caring community and friendly educational atmosphere

These six types of cooperation are based on numerous studies covering research and experiments on different teaching and learning stages. Each of these categories comprises numerous distinct cooperative initiatives, each with the capacity to produce diverse outcomes for students, parents, teaching methodologies, and the overall school environment. With a good relationship between the two homeschooling parties as a prerequisite, schools can choose appropriate models of home-school cooperation to guide parents in their home education, and at the same time, parents can participate in school education in the roles of supporters and partners. According to Epstein’s theory, home-school cooperation is strongly associated with improved academic achievement among students. This theoretical proposition is supported by a vast body of empirical research conducted both domestically and internationally.

3. The Impact of Home-School Cooperation on Adolescents’ Academic Achievement

3.1. Correlation Analysis of the Impact of Home-School Cooperation on Adolescents’ Academic Achievement

Home-school cooperation can improve teachers’ sense of responsibility, enable teachers to help parents conduct better home education, and thus promote the healthy development of adolescents’ academics and behaviors [12].

A longitudinal study by Shumow and Miller found that parents’ school participation was positively correlated with students’ scholastic achievement. Home-school partnerships in the form of school tours and parent-teacher organizations can promote student achievement in math and science [13].

Jingmei Li conducted a thorough study that adapted and condensed Epstein's theory. The study examined the correlation between academic achievement and home-school cooperation through four essential dimensions, namely reciprocal communication, home learning, participation in decision-making, and volunteering. A partial correlation analysis was conducted to analyze the dimensions of family-school cooperation and academic achievement, controlling for relevant demographic theory variables such as gender, lone-child status, and parental literacy. The results show a significant positive link between home-school cooperation and academic performance among middle school students [14]. This was evidenced in Table 2, affirming the importance of robust home-school ties in academic enhancement.

Table 3. Partial correlation analysis of home-school cooperation and academic achievement of middle school students (N=1128) [14].

	Communicating	Learning at home	Decision making	Home-School Cooperation	Volunteering
Language achievement	0.101**	0.091**	0.009	0.064*	0.079**

Table 4. Partial correlation analysis of home-school cooperation and academic achievement of middle school students (N=1128) (continued).

	Communicating	Learning at home	Decision making	Home-School Cooperation	Volunteering
Math achievement	0.115***	0.099**	0.076*	0.117***	0.125***
English Language Achievement	0.084**	0.079**	0.066*	0.108***	0.103**
Academic achievement	0.122***	0.109**	0.061*	0.117***	0.124***

Note: *P<0.05; **P<0.01; ***P<0.001.

It has also been shown that when teachers initiate contact with parents regarding students' misbehavior or learning difficulties, it can have an adverse impact on academic performance. Thus, the negative relationship between teachers initiating contact with parents and academic outcomes may be attributed to the nature of the communication. Typically, such contact involves informing parents about their child's troubles and requesting their collaboration [15].

3.2. Mechanism Analysis

3.2.1. Mediating effects of parent-child communication

The adolescence stage of life represents an essential milestone in individual psychological development, marked by a desire for parental understanding and respect coupled with a push for independence. However, this paradoxical psychological state can pose significant challenges in communication between adolescents and parents, leading to potential problems or rebellious behavior. However, it has been shown that good home-school cooperation and parent-child communication can help establish a parent-child interaction model, which is an important way to alleviate adolescents' problematic behaviors and improve their academic achievement [16].

The study by Zhe Li et al. further explored the mediating mechanism of the relationship between the two and found that not only can home-school cooperation directly affect adolescents' academic achievement, but it can also have an indirect impact on adolescents' academic achievement through enhanced parent-child communication [17]. The former regards the direct impact of cooperation on academic performance, while the latter recognizes the importance of enhanced parent-child communication arising from such cooperation. This communication, in turn, can significantly impact academic achievement as well (see Table 3 and Figure 1). The results showed that the mediating effect of parent-child communication was significant after controlling for adolescents' gender, age, and parent's education level, with an effect value of 0.11. After controlling for the mediator variable parent-child communication, the effect of home-school cooperation on adolescents' academic achievement remained significant, with an effect value of 0.62. Thus, parent-child communication played a partially mediating role in the prediction of adolescents' academic achievement by home-school cooperation.

Table 5. Mediating effects of parent-child communication [17].

Trail	Effect value	Boot standard error	BootCI lower bound	BootCI cap
Home-School Cooperation - Parent-Child Communication - Academic Achievement	0.11	0.02	0.07	0.16
Direct effect	0.62	0.06	0.50	0.73

Note: Boot standard error, BootCI lower bound, and upper bound are the lower and upper bounds of the standard error and 95% confidence intervals estimated by the Bootstrap method.

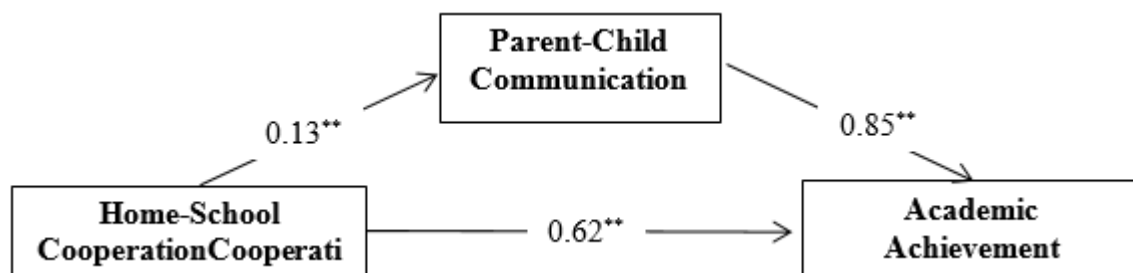


Fig 1. Mediating Effects of Parent-Child Communication in Home-School Cooperation and Academic Achievement [17].

Effective parent-child communication has been found to significantly and positively predict adolescents' academic achievement [18]. Such high-quality communication, in turn, can positively impact academic achievement among adolescents. In contrast, inadequate communication and understanding between parents and children can negatively impact academic achievements, leading to lower achievement levels.

In addition, Zhe Li et al. constructed a moderated mediation model, and found that only-child status moderated the second half of the mediation chain of "home-school cooperation → parent-child communication → academic achievement" [17]. That is, compared with non-only children, the partial mediation of parent-child communication of only children is more prominent.

3.2.2. Mediating effects of parental expectations

A study by Bihua Zhao found that the more parents of students expect their children to learn and the more they can participate in their students' learning, the better their children's performance [19].

According to a study conducted by Jingmei Li using the overlapping domains of influence theory and ecosystem theory, the findings indicated that home-school cooperation can have both a direct impact on middle school students' scholastic achievement and an impact through the partially mediated role of parental expectations [14].

A study by Kaplan et al. pointed out that student expectations and students' perceived parental expectations are linked, and that parents' expectations of their children are internalized through their children's internalization of external behaviors that concretely manifest in enhancing academic achievement, and attitude that is sufficient to make their expectations a reality [20].

Nonetheless, a meta-analysis conducted by Castro M et al. examining the impact of parental involvement on academic performance found that while there is a strong correlation between parental expectations and educational attainment, the results of previous studies vary, it remains to be determined whether variables such as parental expectations are worthy of inclusion in any individual or meta-analytic study [21].

Through this analysis, the researcher concluded that the differences in the views of previous scholars may be related to differences in factors such as family economic conditions as well as parental involvement. Therefore, an in-depth investigation is necessary to determine whether specific interventions could influence the relationship between parental expectations and scholastic performance, and to explore whether other moderating factors affect parental expectations in the mediating process between home-school cooperation and academic achievement.

3.2.3. Mediating effects of learning engagement

Several empirical studies have provided evidence that increased learning engagement positively impacts students' academic achievement. Students who are more engaged in school have higher grades and academic achievement.

In the study by Heping Zhang et al. [2], they concluded that home-school collaboration significantly and positively predicts teenagers' scholastic achievement after controlling for factors such as students' gender, family socioeconomic status, and parenting styles. At the same time, they conducted a mediation effect analysis and found that learning inputs were fully mediated between home-school cooperation and academic performance.

Table 4 shows the results of the Bootstrap test on the mediating effect of learning engagement, which shows that the confidence interval of the indirect effect of home-school cooperation on academic performance ranges from 0.078 to 0.111, indicating the existence of the mediating effect of learning engagement. In contrast, the confidence interval of the direct effect ranges from -0.02 to 0.046, suggesting that learning engagement has a fully mediating effect between home-school cooperation and academic performance.

Table 6. Bootstrap test results [2].

X→Y	Standardized efficacy value	Bootstrap standard error	Bias-corrected percentile Bootstrap		
			Lower Bounds	Upper Bounds	two-tailed sig.
Aggregate effect	0.107	0.018	0.074	0.142	0.001
Direct effect	0.013	0.017	-0.02	0.046	0.462
Indirect benefits	0.094	0.008	0.078	0.111	0.001

Good educational interaction in home-school cooperation can influence students’ perception and cognition of learning subtly, prompting them to recognize the value and significance of learning, stimulating their interest in learning and exploration and desire for knowledge, and maintaining a positive psychological state is also easier to experience happiness and a sense of achievement in learning, and it is easier to focus their attention on learning activities. These are important guarantees for good academic achievement [2].

4. Strategies of Home-school Cooperation on Adolescents’ Academic Achievement

4.1. For Family

4.1.1. Emphasizing communication with adolescents

Parents need to emphasize parent-child communication and improve the quality of parent-child communication. Teenagers spend most of the day in school classes studying collectively, and when they go home, they also have homework to complete every day, and parents have busy work assignments to complete, all of which reduce the communication between parents and their children. However, there are a lot of interesting things that happen to students at school as well as confusion in learning that need to be communicated and shared. Parents should not only focus on students’ performance but also stand with their children more often, recognizing their children’s efforts, and encouraging and consoling them for temporarily falling behind in school. In addition, parents should encourage their children to take the initiative to seek help from peers and teachers, to ask more questions, and to check for deficiencies promptly. Parents should maintain effective communication with teachers and cooperate. Good home-school cooperation can effectively guide parent-child communication, which ultimately affects adolescents’ academic achievement indirectly.

4.1.2. Have reasonable expectations of adolescents’ academic achievement

As a parent, it should be clear that a parent is a parent and not a teacher, who will focus on the student’s academic achievement. Home should be a warm and welcoming place, where children can feel relaxed and cared for. Parents should give their children reasonable expectations, in addition to grades and scores, every child has a shining point. Parents should praise their children in a timely and specific manner to set a good example for their children. In this way, children can have a sound personality and develop healthily in a relaxed, pleasant, tolerant, and understanding family atmosphere. Parents should have reasonable expectations of their children and give them encouragement, which will help them grow and improve their academic achievement.

4.2. For Schools

4.2.1. Innovative ways of home-school cooperation

Schools should guide parents to take an active part in the education of their students. Innovative ways of cooperation between families and schools are essential, such as parent seminars and parent-teacher associations. In these ways, teachers can know how children behave when they are at home, and parents can find out how their children are doing in school, thus achieving the objective of improving the academic achievement of young people. Teachers and parents should also set good examples in the process of educational interaction to stimulate students' interest in learning so that they can develop good learning habits, engage in learning with a positive attitude, and experience the joy of learning.

Through multi-activity participation and communication exchanges between parents and schools, and in both directions, mutual understanding and support can be realized between parents and schools, thus promoting more efficient development of young people's academic achievement.

4.2.2. Promoting parental involvement in school-related decision-making and ensuring consistency in education

Schools should encourage parents to participate in school decision-making in a variety of ways to improve their youth's academic performance, which may include: symposiums on school uniforms, students' merits and prizes, canteen management, etc.; the development of a call for parental suggestions, which will be made public; parental listening and evaluation activities; parental participation as judges in school singing contests, sports games, etc.; principals' mailboxes; and surveys of parental satisfaction, etc.

Schools should also improve parent committees and encourage parents to participate in school decision-making. Many parents do not understand school education, so when the school seeks advice many of the decisions in which parents participate are merely formal, so that in the long run there will be a lack of parental participation and a lack of parental recognition, understanding, and support for education and some of the work of the school. Teachers need to prioritize effective communication with parents for them to have a genuine understanding of their child's academic progress and overall experience in school, and utilize the correct teaching methods of home-school cooperation and the concept of parental work to design home-school cooperation sessions suitable for the growth of students. Only in this way can educators better play the role of education and promote the improvement of young adolescents' studies.

5. Conclusion

Based on the above research findings, establishing strong home-school cooperation can be highly effective in enhancing the academic achievement of students. Research indicates that there is a notable positive correlation between home-school cooperation and the academic achievement of adolescents. Furthermore, factors such as parent-child communication, parental expectations, and learning engagement play a partly mediating role in the effect of home-school cooperation on adolescents' academic achievement. This study attempts to provide some effective strategies to promote home-school cooperation and to help build a good home-school partnership that will have a positive impact on adolescents' academic achievement.

Since this study only analyzed the separate roles of the mediating variables and lacked a strong basis for the analysis of whether the variables would influence each other and whether there were moderating variables, the interaction between some of the variables, and whether there was an effect of the moderating variables deserves further investigation by the researcher.

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