

A Review of The Literature on the Relationship Between Parental Involvement and Children's Academic Achievement in the Last Decade

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Abstract

Parenting involvement plays a crucial role in children's growth and development, and research on the relationship between the two has been very fruitful. In this paper, we analysed 55 articles from the last decade since 2012 and summarized the effects of parental involvement on children's academic achievement in terms of both direct and indirect effects, on the basis of the clarification of the concepts of parental involvement and children's academic achievement. It is found that the current research is characterised by an increasingly complex relationship between the two, more micro and specific mediating and moderating variables, a richer theoretical perspective and a predominance of quantitative research methods. It is suggested that future research should work towards focusing on pre-school children, paying attention to specific social contexts, reducing self-reporting errors in parenting involvement, employing comprehensive research methods, and enriching longitudinal tracking research findings.

Keywords

Parenting involvement; Parental engagement; Academic achievement; Academic performance; Literature review.

1. Introduction

Parental involvement refers to a variety of behaviours that parents engage in at home and at school to promote better academic achievement and psychological development in their children.[1] The relationship between parental involvement and children's academic achievement has been studied for a long time. In the 1960s, the UK and the US implemented the child compensation programs such as the Education Priority Area Programme and the Head Start Program, which encouraged low-income families and ethnic minority parents to actively participate in their children's education.[2,3] The success of these programmes demonstrated the importance of parental involvement in the development of children. [4] Then in the 1970s, Bronfenbrenner[5] proposed the ecological system theory, which states that the family, as an important 'microsystem' that individuals are personally exposed to and closely connected to, have a significant impact on children's development, with family-based parenting involvement at its core. The proposal of ecological system theory has provided an important theoretical basis for the study of parental involvement. The subsequent series of empirical studies and meta-analyses demonstrated a low to moderate significant positive correlation between parental involvement and children's academic achievement[6-8]. However, some studies have also shown no significant correlation between the two.[9,10] Some studies have even shown that excessive parental involvement harms children's academic achievement.[11, 12] Why are there such different results? The reason for this is that there is no commonly accepted theoretical

framework for parenting involvement, and the concept has become somewhat ambiguous as researchers have operationalized, measured, and applied it for different research purposes in different studies.^[13,14] It is therefore important to define a clear concept of 'parental involvement and 'child academic achievement'.

2. Parental Involvement

To further clarify the relationship between parental involvement and children's academic achievement, the author first identifies the concept of parental involvement.

2.1. Definition of parental involvement

Grolnick et al.[15] consider parenting involvement as the total input of parents in the process of educating their children. Seginer[1] argues that parenting is a combination of behaviours that include the parent's philosophy of parenting, expectations of their children, and all the actions they take in their daily lives to promote their children's physical and mental development.

In a meta-analysis of 37 studies that investigate the relationship between parental involvement and academic achievement, Castro et al.[6] coded parental involvement as a general description of parent participation, communication with children about school issues, homework-parental supervision of schoolwork, parental expectations, reading with children, parental attendance and participation in school activities, and parental style. In a review of 75 empirical studies related to parental educational involvement and children's academic achievement, Boonk et al.[13] divided parental educational involvement into two categories: Home-based involvement, which is the influence of the home environment on the child, where parents play a guiding and regulatory role to promote the child's academic achievement; and School-based involvement, which emphasises the connection between home and school, parental involvement in school activities, such as timely communication between the school and parents about the child's education. This study adopted Seginer's definition of parental involvement and Boonk's classification of parental involvement.

2.2. The Structure and Theoretical Model of Parental Involvement

Parents' involvement in their children's education takes many forms, and as research develops, researchers are beginning to categorise parental involvement and come up with different structural views from a variety of perspectives. Luo Liang[16] summarised the different structures of parental involvement in terms of teachers, emphasis on parental monitoring, child initiative, etc. Epstein[17] emphasised the important role of schools in promoting parental involvement and classified parental involvement into six types from the perspective of teachers; Based on a meta-analysis of 25 studies, Fan[7] classified parental involvement into four dimensions, to which a dimension of family monitoring was added. Grolnick[15] places greater emphasis on the initiative of the child and therefore places great importance on the emotional element when structuring parental involvement, dividing the parental involvement into three dimensions. In summary, there are three-, four- and six-dimensional structures of parental involvement, as shown in Table 1 below. However, the structure of parental involvement is not static but rather constantly changing with children's growth just as Hill's[11] research suggests. As research proceeds, how does parenting involvement arise? What are the mechanisms underlying it? What are the factors that influence parental involvement? These questions have received much attention from researchers, who have proposed different theoretical models. The most prominent of these are the Hoover-Dempsey[18] multi-level model of parenting involvement, which highlights micro-level processes, and Seginer's[1] ecosystem model, which recognises various influences at a macro, static level. Meanwhile, Oswald et al. conclude that there are child-level, family-level, and school-level[19] factors influencing parental educational involvement, indicating that parental involvement can be influenced by factors such as the

child's age[20], family income, parental education, country region, ethnicity, and family structure and other factors.[21]

Table 1. Division of parental involvement structure

Dimension	Highlights	Contents	Representative persons
Three-dimensional structure	Children's initiative	Behavioural involvement; Cognitive/intellectual involvement; Personal involvement	Grolnick (1994) Slowiaczek (1994)
Four-dimensional structure	Parental monitoring	Parent-child communication; Family monitoring; Educational aspirations; School contact and involvement	Fantuzzo (2001)
Six-dimensional structure	School's vital role	Parenting; Communication; Volunteering; Home learning; Decision-making; Working with the community	Epstein (1995)

3. Children's Academic Achievement

According to the operational definitions of relevant studies[6], academic achievement can be divided into overall achievement, which is a general concept that does not refer to specific subjects, and then subject-specific achievement in math, reading, science, social studies, foreign language, and other subjects(art, music, etc.).

For preschool children, the academic achievement proposed by Jin et al. [22]which refers to cognitive development, social-emotional, language and literacy skills, and approaches to learning would be more applicable. In addition, academic achievement includes mathematical skills, such as numeracy; reading achievement, etc. The academic achievement of children in this study mainly refers to children's language, mathematics, science, reading skills and approaches to learning.

4. The Relationship Between Parental Involvement and Children's Academic Achievement

To include as much as possible the latest research related to parental involvement and children's academic achievement, this study conducted a literature search with different databases. In databases such as CNKI, Web of Science, ERIC, and PsycINFO, using ("parental involvement", "parental participation", "maternal and paternal engagement", "parental support", "family involvement", "household") AND ("academic achievement", "educational outcomes" "student outcome", "numeracy", "literacy", "reading", "approaches to learning" as themes or keywords to search relevant literature in the last decade, and eventually 157 papers were retrieved from the CNKI database; 534 from Web of Science, 334 from ERIC and 235 from PsycINFO. The author then filtered the literature, with the following criteria: firstly, the literature should cover studies on children aged 0-12 years; secondly, the literature should have a clear description of the relationship between parental involvement and children's academic achievement, including meta-analysis reports, literature reviews and empirical studies; thirdly, studies on children with special needs, such as hearing impairment, visual impairment, ADHD,

etc., were excluded. Finally, 55 papers were selected, and the relationship between parental involvement and children's academic achievement is summarised below in terms of both direct and indirect effects.

4.1. Parental Involvement As An Independent Variable Directly Contributing to Children's Academic Achievement

In the context of the numerous studies exploring the relationship between parental involvement and children's academic achievement and the highly inconsistent findings, many researchers have conducted reviews and meta-analyses of relevant studies. The results suggest that parental involvement positively predicts children's academic achievement. A review study by Boonk et al.[13] indicated (small to medium) positive associations between parental involvement and academic achievement, which is consistent with previous findings.[6, 7] A meta-analysis by Erdem and Kaya[23] reported a low correlation between the two, while a meta-analysis by Ma et al.[25] indicated a strong correlation (0.509). This variation may be due to the fact that different meta-analysis included different literature concerning the types of parental involvement, measurement methods, the specific content of children's academic achievement, publication dates of literature, types of literature and other factors. In the following section, the findings are presented in two parts which are divided according to the age of the research subjects :preschool level (0-6 years) and primary level (6-12).

4.1.1. Early Childhood (0-6 years)

The relationship between parental involvement and preschool children's literacy skills varies depending on the specific types of parental involvement. Family-based parenting involvement, for example, which includes parental behaviors like story-telling, co-reading positively predicts children's literacy skills, while school-based parental involvement, such as volunteering and involvement in social activities, negatively predicts children's literacy skills[26]. However, some studies have shown that parental involvement in school activities has a positive effect on children's literacy, while other school-based parental involvement, such as parental volunteering or interaction with teachers, has no significant effect on children's literacy[27].

The majority of studies show a positive association between parental involvement and preschool children's maths and reading abilities.[28-33] But Sibley and Dearing's[34] survey of 9,203 children found that parental communication with school and teachers positively predicted children's reading ability but not their mathematical ability, and parenting activities at home with children such as reading together, playing games or building blocks negatively predicted their mathematical and reading ability and that parental educational expectations positively predicted both mathematical and reading ability. Zhang Xiao's [35]study found that parental involvement in informal mathematical activities with their children, especially using learning software with their children in the pre-school years, significantly predicted children's mathematical ability by the first year of primary school. Meanwhile, Wang Yuan's[36]study showed that the better the level of parental involvement in education, the higher the children's learning quality scores.

4.1.2. Primary School Level (6-12 years)

Home-based parental involvement, as well as parenting expectations, trust in the child's abilities, and emotional support[37-43], positively predicted the achievement of primary school students in language, English, mathematics and science, while school-based parental involvement, such as participation in voluntary activities and class trips, had no effect[37] and even a negative[38] predictive effect on it. In addition, some studies indicated that cognitive involvement and intellectual involvement had no effect[44] or a negative effect [41] on students' language skills and numeracy.

In terms of primary school children's reading achievement, parental involvement in autonomy-supportive behaviours in primary school children's homework can positively predict children's reading achievement, and conversely, controlling behaviours can negatively predict them[45]. And the more parents were involved in reading-related activities, the higher the child's reading achievement[46].

Apart from achievement in a specific subject, some researchers have also integrated scores from several subjects to explore the relationship between parental involvement and students' academic achievement. Han Xiuhua et al. [47] found a significant positive predictive effect of parent-child communication on students' overall achievement; Jaime et al.[48] found a significant positive predictive effect of parental involvement on children's academic achievement. Others found a negative predictive effect between the two[49].

4.2. Parental Involvement Indirectly Affects Children's Academic Achievement Through Moderator or Mediator Variables

As research deepens, more and more studies are beginning to explore the inner mechanisms between parental involvement and student academic achievement and other variables that mediate or moderate the effect of parental involvement on student's academic achievement.

4.2.1. Family SES

Family SES is closely related to the types and effectiveness of parental involvement, and to some extent family, SES determines the socio-cultural resources to which children are exposed. Family SES often influences children's academic outcomes by affecting parental mental health, parental relationships, parenting behaviours, and parental involvement and investment in education[50, 51].

Chang et al.[30] and Phillipson[37] suggest that family SES moderates the relationship between parental involvement and children's academic achievement, and that Chinese parents' attributions vary by SES, with low-income parents being more likely to attribute failure to lack of ability and success to effort. In contrast, middle- and high-income parents attributed both effort and strategy as important reasons for their child's success in language and mathematics. In addition, parents with higher income and education levels can generally provide better educational resources and opportunities for their children, and these parents are more involved in their children's education, therefore, parents with high SES create a better educational climate for their children, and these cultural resources are conducive to their children's academic achievement[52]. Other studies have found that the mother's level of education partially moderates the relationship between parental involvement and children's academic achievement. Parents with higher education appear to be more effective in engagement activities[46, 53]. At the same time, Darling's research suggests that increasing parental involvement among children of low socio-economic status is associated with increased levels of academic achievement for these children[54].

4.2.2. Educational Expectations and Self-efficacy

Students are not passive recipients of information, their characteristics and their recognition and acceptance of parenting behaviours can also influence the role of parenting in their development. "Self-efficacy expectations" reflect the degree of confidence in the individual's ability to perform a given task. Current research suggests that self-efficacy expectations can play an important mediating or moderating role in the relationship between parental involvement and individual academic achievement.

Bandura distinguished between two kinds of expectations: namely outcome expectations and efficacy expectations. Outcome expectations refer to an individual's expectation that his or her behaviour will lead to a certain outcome, while efficacy expectations refer to an individual's judgement of his or her ability to perform a behaviour, which is known as 'self-efficacy'.

Specifically, in the area of academic achievement, outcome expectations refer to students' educational expectations, i.e. their expectations, intentions or goals for their ultimate level of education in the future[58], while efficacy expectations refer to students' academic self-efficacy, i.e. the degree to which they believe in their ability to organise and implement measures to achieve their desired level of academic performance.[59] Guo Xiaolin et al. [57]demonstrated that educational expectations and academic self-efficacy play a co-moderating role in the relationship between parental involvement and students' academic achievement. Primary school children's level of academic self-efficacy influences whether their educational expectations moderate the relationship between parental involvement and academic achievement. To be specific, when primary school students have high academic self-efficacy and educational expectations, parental involvement has a negative predictive effect on academic achievement; when primary school students have high academic self-efficacy but low educational expectations, parental involvement has a positive predictive effect on academic achievement; when primary school students have low academic self-efficacy, parental involvement has no significant predictive effect on academic achievement regardless of high or low educational expectations. In addition, Lara's [56]study also indicated that self-efficacy and self-regulated learning played a significant role in the relationship between parental involvement and students' academic achievement.

4.2.3. School Level, Geographical Location and Test Subjects

Otani's[60]research has shown that the relationship between parental involvement and student academic achievement varies with the school level and the specific subjects tested. Other researchers have also found that school background also influences the relationship between the two[61]. However, Ates' meta-analysis in 2021 [24]showed the opposite result, indicating that school level and tested subjects, as well as geographical location, did not show significant differences in the relationship between parental involvement and student achievement.

4.2.4. Interactions of Nature and Nurture

Human development is influenced by a combined effect of congenital genetics and education (environment), and mathematical ability is no exception.[62]Based on the gene(G)*environment(E) interactions mechanism, Zhang Mingliang et al. [63]recruited 602 primary school children and their parents as subjects, aiming to examine the potential interaction between the BDNF gene rs6265 polymorphism and parent-involved Education(PIE) on children's basic mathematical abilities. The results showed that the BDNF rs6265 polymorphism was significantly associated with logical thinking and spatial vision abilities in preschool children. The parent-involved education behaviour positively predicted logical thinking and spatial vision abilities among preschool children carrying the G allele but not the AA genotype. This interaction may be more consistent with the strong diathesis-stress model (the G allele at rs6265 may be a risk gene). This study sheds light on the complex relationship between parental involvement and student academic achievement in terms of gene-environment interactions.

In addition to the above variables, variables such as gender (parent, child)[43, 49], ethnicity[13, 30, 34], growth mindset[21], and student attitudes[64] also influence the relationship between parental involvement and children's academic achievement.

5. Summary

5.1. The Relationship Between Parental Involvement and Children's Academic Achievement Is Becoming Increasingly Complex

The relationship between parental involvement and children's academic achievement is becoming increasingly complex. In general, the higher the level and quality of parental involvement, the better the child's academic achievement, which is consistent with the findings of the ecosystemic theory that the family has a significant impact on child development. At the same time, the literature on the relationship between parental involvement and children's academic achievement in the last decade has focused more on the relationship between certain types of parental involvement and children's academic achievement than previous studies, such as educational expectations, educational control, autonomy support behaviours, cognitive involvement, emotional involvement, etc.[65]

5.2. The Mediating and Moderating Variables Are More Micro-specific

The literature in the last decade has explored the relationship between parental involvement and student academic achievement with more microscopic mediating and moderating variables, such as student attitudes[42], learning interests[43], cognitive ability[37], etc. At the same time, sociocultural contexts have also been a key consideration for researchers, with more comparative studies being conducted in the last decade, such as the one conducted by Reparaz et al. in Spain and Germany.[66]

5.3. Theoretical Perspectives on Research Are Becoming Increasingly Diverse

In the last decade, the literature has moved beyond simply exploring the direct relationship between parental involvement and student's academic achievement to discussing the mechanisms underlying their influence from a variety of theoretical perspectives. In addition to ecosystemic theory, some studies have explored the relationship between mothers' educational involvement and children's socialization, persistence and academic achievement from the perspective of self-determination theory.[67,68] The interaction between genetic and parental involvement in mathematics has been discussed from a G*E perspective.[63]

5.4. Quantitative Research Predominates, With Very Little Qualitative Research

Most meta-analysis reports on the relationship between parental involvement and student achievement in the last decade have used the structural equation modelling or path analysis. Depending on the purpose of the study, empirical studies use a combination of questionnaires, tests, observations and other methods to collect data or use tracking data from national or large databases. T-tests, multiple comparisons, ANOVA, path analysis and other methods are mostly used in the data analysis, while there are fewer qualitative studies on the relationship between parental involvement and students' academic achievement.

6. Discussion

6.1. Focus on Preschool Children

Future research should pay more attention to the basic education level, especially the pre-school period. Existing research has focused more on the academic achievement of specific subjects such as mathematics, language, science and English, and student's academic achievement is mostly measured by the achievement of these subjects (or by the combined achievement of several subjects), but for preschool children, there are core qualities that are embedded behind achievement, such as approaches to learning, which are key to their academic success. Given that the development of preschool children in this period is heavily

dependent on the family (parents), and that parental involvement is more family-based and has a more pronounced impact on children's development, so future research should focus on exploring the relationship between parental involvement and preschool children's academic achievement.

6.2. Focus on the Particular Social Contexts

Future research could explore the relationship between parental involvement and children's academic achievement in specific historical events and social contexts, for example, the relationship between parental involvement and children's academic achievement in contexts such as city closures, school closures and home working under the impact of the Covid-19 epidemic.

6.3. Reduce Self-reported Errors In Parental Involvement

Much of the parental involvement in existing research has been reported by parents, but some studies have shown that [65] parental involvement may be different from the actual situation. Therefore, future research could reduce this error when measuring parental involvement through naturalistic observation or by combining parental and children reports.

6.4. Integrate A Variety of Research Methods

Future research could dig into the impact of a variable on the relationship between parental involvement and students' academic achievement through qualitative research. In this literature review, only one qualitative study has been incorporated, *Building Home-School Relationships to Enhance Reading Achievement for Students From Families With Limited Financial Resources*. Future research could look forward to breakthroughs in research methodology and use a combination of methods to conduct research.

6.5. Enrich the Longitudinal Tracking Study

Most of the existing studies are cross-sectional, but the relationship between parental involvement and student achievement needs to be supported by longitudinal research data or even experimental data to explore the relationship in depth, for example, to examine whether the relationship between parental involvement and student achievement at kindergarten level still exists at primary school level, and so on. Therefore, future research should be developed in a longitudinal direction.

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