

The multi-faceted effects of gender in parental involvement: The results of a systematic literature review

Emese Alter¹  | Hajnalka Fényes²  | Gabriella Pusztai¹ 

¹Faculty of Humanities, MTA-DE-Parent-Teacher Cooperation Research Group, University of Debrecen, Debrecen, Hungary

²Faculty of Humanities, Department of Sociology and Social Policy, MTA-DE-Parent-Teacher Cooperation Research Group, University of Debrecen, Debrecen, Hungary

Correspondence

Emese Alter, Faculty of Humanities, MTA-DE-Parent-Teacher Cooperation Research Group, University of Debrecen, Debrecen, Hungary.

Email: emesealter@gmail.com

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Abstract

Parental involvement (PI) in a child's education, both at home and school, is a well-researched topic, but there is limited focus on gender differences in PI. The aim of this systematic literature review was to investigate how the gender of students, parents and teachers influences PI and student achievement. Eighty-five databases within the EBSCO Discovery Service were searched for studies that were published in English, focused on at least one form of PI, examined the gender of at least one actor (student, parent, or teacher), focused on K-12 education, and presented original empirical results. Following a quality assessment using the Mixed Methods Appraisal Tool, 43 studies were included, published from 1990 to 2024. The temporal, geographical and methodological characteristics of the studies were analysed, alongside thematic areas and the main findings. Findings revealed that most studies were from the global North, where mothers' involvement is typically higher, while in the global South, fathers' involvement tends to be greater. Single parenthood was associated with lower PI, although its impact on gender differences in achievement remains debated. Few studies examined teacher gender, and there was a significant lack of qualitative research on this topic, indicating areas for further investigation.

KEYWORDS

gender differences, parental involvement, single parents, systematic literature review

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Context and implications

Rationale for this study: This systematic literature review covers the temporal and geographical characteristics (year of publication, location, target group studied), methodological characteristics (sample size, variables, methodology), and the main results of studies published between 1990 and 2024 on parental involvement/engagement and the effects that the gender of different actors (parent, student, teacher) have on involvement and its outcomes. Furthermore, the review synthesises the results of the literature in the following topics: gender differences in parental involvement (PI); the interaction effect of family structure and gender on involvement, gender differences and the impact of involvement on achievement; the combined effects of parenting principles and involvement on child outcomes, and gender differences and the relationship between higher education choices and involvement.

Why the new findings matter: Our findings highlight that the effectiveness of PI does not only depend on its intensity or frequency. The characteristics of effective forms of involvement are also linked to the gender of its main actors (parent, student, teacher), gender interactions and gender role expectations within the cultural context.

Implications for researchers and policymakers: For researchers, the lack of research including teachers' gender as an independent variable may be an important implication, as it represents a significant blind spot in gender research on this topic. An important implication for policymakers or school administrators facing the introduction of institutional good practices to increase PI is that it is of paramount importance to explore the values and stereotypes of gender roles in a given socio-cultural context before any new policy is introduced and that more intensive involvement is not always associated with higher academic achievement, so that the different forms and actors of involvement should be given special attention.

INTRODUCTION

Parental involvement, parental engagement, and their effect on students' achievement

Factors influencing students' performance at school are examined from a variety of perspectives in the literature. A significant body of research focuses on the involvement (and/or engagement) of parents in their children's education as a key determinant of the relationship between the primary and secondary agents of socialisation. Based on Epstein and Sanders' typology, PI or participation can be classified into six categories, namely parenting, communicating, volunteering, learning at home, decision-making and collaborating with the wider community (Epstein & Sanders, 2002). Based on Hayes (2011), these behaviours can be further divided into two main groups, where home-based PI refers mainly to effective parenting at home, supporting children's learning at home, and regular communication about school activities and events, while school-based involvement refers to attending (informal and formal) school events. Since this review covers both the literature focusing on PI and parental engagement, it is inevitable to define the relationship between the two concepts. According to Goodall and Montgomery (2014), involvement with the school and parental engagement with children's learning can be interpreted as endpoints of the same continuum. While involvement refers to participation in an activity, event or interaction, engagement is more than that, as it includes a sense of ownership and being involved. A further characteristic

of engagement with children's learning is that it is relatively independent of engagement with schools – while lower-status parents may find it difficult to attend school events at inconvenient times, being engaged in their children's learning could still be very important for them. Goodall and Montgomery (2014) state that involvement and engagement differ when it comes to the agency of the school and parents, the place where interactions between the two take place, and their effects, too. Involvement includes parental participation in school-organised programmes, usually taking place at the school, where the school provides information but does not seek input from the parent (but can be an important basis and starting point for the parent–school relationship). The next point of the continuum is PI with schooling, where the school can still initiate the cooperation, but there is already a back-and-forth exchange of information and more shared agency between the school and the parent (e.g. homework help, parent–

teacher meetings). The advantage of this is that information about the student is improved for all parties, and authentic communication can take place between parents and the school. The third point on the scale is parental engagement with children's learning, where although the school can inform the process, the activity itself is based on the parent's initiative, agency, attitudes and choices. Such activities include, for example, when a parent enrolls and accompanies their child in extra-curricular activities, or when parents talk to their children about school and the importance of learning.

Another form of PI is parents' expectations of school performance and future studies, which have an impact on academic achievement (Carter & Wojtkiewicz, 2000). Tan et al. (2020) suggest that student achievement is increased if parents' expectations of their children's school performance are high, they study and read with their children at home, talk about school matters, as well as volunteer to help out at school and keep in regular contact with teachers. Research on PI therefore clearly shows that the extent and type of PI are closely linked to children's school achievement (Epstein, 1992, 1995; Jeynes, 2007, 2012; Nguon, 2012). However, there is controversy about the direction of the relationship between involvement and achievement. Boonk et al. (2018) pointed out that more intense involvement was associated with lower achievement in some cases. In addition, parents' child-rearing principles and religiosity can also modify the effect of involvement on academic outcomes (Amani et al., 2020; Pusztai & Fényes, 2022).

Previous literature reviews focusing on PI have also shown that different forms of involvement come with differing effects on student achievement. According to Ariës and Cabus' (2015) review on PI in homework, facilitating, structuring, and emotionally supporting the children's activities relating to doing homework, the results are either indecisive or negative in the literature, while parents directly assisting their children during homework tasks is an effective strategy. When Kennedy et al. (2021) examined family engagement in the literature (that they defined similarly to Goodall & Montgomery, 2014), they found that engagement was associated with higher academic achievement, high school completion, and effective social–emotional functioning of the child. De la Rie et al. (2016) have also shown that the form of PI is not the only factor that can have a significant impact on the effect parental activity has on their children and their academic progress. According to their review, research-assessing programmes that aim to support PI are often poor in quality and fail to assess implementation quality which is a key factor of transfer to daily life.

Gender differences in the forms, intensity and effect of involvement

In recent decades, a growing body of research has addressed gender differences and the effects of gender roles, stereotypes and expectations in different areas. Research on the subject, focusing on students' performance at school, has unanimously pointed to the advantage

that girls have, a tendency prevalent in OECD countries and in the United States at both primary and secondary levels. Moreover, today the majority of students in higher education are female (Clifton et al., 2008; Perkins et al., 2004). This phenomenon can also be interpreted as a 'boys' crisis' as the advantage girls have can be detected in both grades and competency tests (Voyer & Voyer, 2014). One possible explanation for the better performance of girls is their norm-following or norm-surpassing behaviour (Mullola et al., 2012; Spilt et al., 2012). Other important explanatory factors include the fact that both parents and teachers have different expectations for boys and girls (Fényes, 2022) and that teachers discipline students of different genders according to stereotypical expectations (Koca, 2016).

Although these gender differences are the outcomes of the complex interaction of several variables, the literature suggests that gender role expectations concerning teachers, parents and students and the effects of gender socialisation, which significantly influences their behaviour, may also affect PI and thereby may be one of the variables explaining differences in school performance. Indeed, gender role expectations, which vary considerably across cultures and historical periods, both describe and prescribe typical male and female behaviour (Mead, 1949; Merton, 1968; Prentice & Carranza, 2002). Even in modern societies, gender role expectations and stereotypes assign different roles and attitudes to women and men, which are usually complementary: women are typically associated with care and providing emotional stability in the family, whereas men are associated with rationality, leadership, and are assigned the role of the breadwinner (Bem, 1974; Diekmann & Eagly, 2000; Parsons & Bales, 1955; Prentice & Carranza, 2002). In post-modern society, however, gender roles have become more symmetrical, with the emergence of female breadwinner families and the increasingly accepted role of the caring father (Blackstone, 2003; Fényes et al., 2020; Jurczyk et al., 2019).

Research suggests that PI strongly correlates with student achievement, but questions remain as to whether (1) the gender of the student, (2) the gender of the parent, and (3) the gender of the teacher affect the extent and form of PI, and (4) whether the impact of PI on achievement differs according to the gender of the child. (5) Another question is how the interaction effect of family structure and gender influence PI and student achievement. According to Otani (2020), a relatively small body of research has been done on the potential impact of student gender on involvement. As for teachers, there is now a clear feminisation of the profession in developed countries, bringing up the crucial question as to how this affects the involvement of mothers and fathers in school and the communication between parents and teachers. Gender roles within the family also assign different functions and roles to fathers and mothers, and this can affect the form and extent of their involvement (Diekmann & Eagly, 2000; Parsons & Bales, 1955). In addition to gender roles, changing values and norms contribute to the pluralisation of family structures, which also affects PI. According to Goodall and Vorhaus (2011), questions may arise about the differences in PI between students in single-parent and two-parent families. Fostering relationships with children, teachers and the school community is a resource-intensive process. As single-parent families are poor in resources (time constraints, financial difficulties, etc.), this can be a major barrier to PI (Nguon, 2012). According to Kearney (2023), since boys' development and behaviour are more responsive to family environment than girls', the proliferation of single-mother households might be one of the main reasons behind boys' relative disadvantage in education. It is also important to examine how living in a single-mother or single-father household affects children of different genders compared to growing up in two-parent families.

RESEARCH QUESTIONS

During the analysis of all of the studies included in the review, the aim was to address certain research questions.

1. Temporal and geographical characteristics: In which regions, countries and periods has the link between parental involvement/engagement and gender been at the forefront of education research between 1990 and 2024?
2. Methodological characteristics
 - 2A. What methodology do the studies apply, what sample size do they work with, which target group(s) (students, parents or teachers) do they address, and which level of education do they focus on?
 - 2B. How is parental involvement measured in the literature?
 - 2C. From what perspective is parental involvement analysed in the literature (dependent/independent variable/both)?
3. Narrative synthesis
 - 3A. What thematic areas did the studies cover?
 - 3B. What are the major findings in each thematic area?

METHODS

This study applied the PRISMA protocol (Page et al., 2021) in order to make the search strategy, inclusion and exclusion criteria, and screening of studies transparent. To review the quality of papers included in this study, the Mixed Methods Appraisal Tool (MMAT) was used (Hong et al., 2018). For data extraction, a data extraction form was used (See Table A1), in which the authors extracted data based on research questions 1 and 2. Another form of data extraction used was writing annotations of all studies included in this review based on research question 3. The annotations include data on the variables and methods used in the paper as well as its main topic and results relevant to our systematic literature review. To answer research questions 1 and 2, we used the data extraction forms and added tables and figures to the text with narrative descriptions of quantitative data extracted from the papers (e.g. year of publication). After this, to answer research question 3, thematic analysis was undertaken based on the annotations of the papers. The main topics covered by the literature were identified using open coding.

Eligibility criteria

Our review aimed to explore the relationship between gender and parental involvement/engagement. For this, a decision was made to only include articles that directly focus on at least one form of parental involvement/engagement and the effects of the gender of at least one actor (student/parent/teacher). Since the research also aimed to explore the geographical and cultural aspects and differences in the relationship between gender and parental involvement/engagement, a decision was made to include only English-language studies. Although the authors could have included studies written in other languages, this could have lead to bias, as the main language of research and publication is English, the language in which researchers from all countries regularly publish their papers. In order to make the results of the included studies comparable, only papers focusing on K-12 education were included, as education outside this period requires different forms and intensities of PI due to the age of the students, and the teaching methods used outside of compulsory education are also diverse. Since reviewing qualitative research can reveal how a given educational policy, intervention or practice can become successful in different settings, and can illuminate the complex mechanisms that produce the effects explored in quantitative research

(Wolthuis et al., 2022), a decision was made to include both quantitative and qualitative studies in this review. In the case of qualitative studies, only those were included that focused on both the gender of at least one actor and involvement/engagement as a central topic. For the inclusion and exclusion criteria, see Table 1.

Information sources and search strategy

When defining our keywords, a decision was made to use both parental involvement and engagement, because the form and intensity of involvement that parents engage in can differ by culture, social class and other factors, and we wanted to cover the whole spectrum. Other than that, family involvement, engagement and participation were also included to address the other factors besides parents that are involved in children's education. Gender and gender differences were also included as a main topic, as well as family structure, presenting differences with a high level of variance in parents' roles – for example in the case of divorced parents. Since gender roles and scientific approaches to the topic of gender have changed significantly, only papers published after 1990 were covered by the search. The literature search was conducted using the EBSCO Discovery Service Search Engine, which includes 85 databases.¹ Three searches were conducted in October 2021 with the following search terms and criteria:

Search 1 (408 records): Parent involvement OR parent participation OR parent engagement OR family involvement or family engagement (TX All text) AND gender (TI Title) AND gender differences (TX All text) AND family structure (TX All text) AND student gender (TX All text) AND parent gender (TX All text) AND teacher gender (TX All text).

Search 2 (28 records): parental involvement (TI Title) AND gender (TI Title).

Search 3 (63 records): parental involvement (TI Title) and gender (SU Subject).

In March 2024 another search was conducted using the ProQuest Database to find research published in the topic between 2021 and 2024. During this, the following terms and criteria were used:

Search 4 (103 records): Parent involvement OR parent participation OR parent engagement OR family involvement or family engagement (TX All text) AND gender (TI Title) AND gender differences (TX All text) AND family structure (TX All text) AND student gender (TX

TABLE 1 Inclusion and exclusion criteria.

	Inclusion	Exclusion
Originality	Original, empirical research; secondary analysis of a database	Literature review; theoretical studies
Language	Written in English	Written in other languages (with English version not being available)
Involvement/engagement	Including parental engagement or involvement either as a dependent or an independent variable	Only including engagement or involvement as a variable with an indirect effect or as a background/control variable; not including involvement or engagement as a variable
Gender	Examining the effect of the gender of students and/or parents and/or teacher(s) and other school administrators	Only including the gender of any actor as a variable with an indirect effect or as a background/control variable; not including gender as a variable
Level of education	Focusing on K-12 (primary and secondary) education	Focusing on other levels of education; focusing on informal education; not focusing on education

All text) AND parent gender (TX All text) AND teacher gender (TX All text); published between 2021 and 2024.

Selection process

After running the four searches, the records of each search were saved in separate folders using the Zotero software. Duplicate records were also removed with this programme. For screening an online document was used: the records of each search were moved to an online excel document, where it was indicated whether the studies had met the inclusion criteria and if they had not, in which phase of the screening (title, abstract or full-text) they had been excluded. The authors conducted the first phase by dividing the studies among themselves, so each of them made individual decisions about exclusion. All titles and abstracts were screened applying the inclusion and exclusion criteria. In the phase of full-text screening, to reduce the risk of bias, two of the authors rated the articles separately based on the inclusion/exclusion criteria. After this, to assess inter-rater reliability, the third author checked if their decisions aligned, and they did in all cases.

After the removal of duplicate records, as shown by the flow diagram (Figure 1), 590 papers were screened based on the titles and abstracts. After the title and abstract screening, 511 records were excluded, either because they did not focus on PI (e.g. Datnow, 1997), gender differences (e.g. Mackell, 2011), or K-12 education (Wartman & Savage, 2008), or otherwise did not report on an empirical study (e.g. Turnbull et al., 2008). A total of 79 studies which went through full-text screening were identified as potentially relevant. In this phase, 36 papers were excluded. Of these, 19 studies did not focus on PI (e.g. Wells et al., 2013), nine articles did not examine gender differences in depth (e.g. Hornby & Lafaele, 2011), two records did not report on a topic closely related to education (e.g. Skaliotis, 2010), and three articles did not focus on K-12 education (e.g. Strayhorn, 2013). For the data extraction coding forms of the 43 studies included in this review, see Table A1.

Data extraction

For data extraction, two authors divided the studies included in the review between them and then individually recorded the data in the data extraction form. The data extraction form (see Table A1) was used to collect data that were relevant to research questions 1 and 2. This included the characteristics of the publications in terms of time and place: year of publication, country and region, and whether they focused on an ethnic minority/immigrant families (research question 1), methodological characteristics: sample size, qualitative/quantitative methodology, target group (students/parents/teachers), level of education studied, PI as an independent/dependent variable/both (research question 2). To extract data used in the narrative synthesis (research question 3), two authors made annotations of each study including the areas covered by the research, the papers' main findings, and whether the results were significant or not. The third author then checked the data extraction table and the annotations and gave feedback on them. In case they were missing relevant data or were unclear, they asked the other authors to add more information to the documents.

Quality assessment

For critical appraisal and to limit bias, each included study underwent critical review. The Mixed Methods Appraisal Tool (MMAT) was used to explore the risk of bias in the included

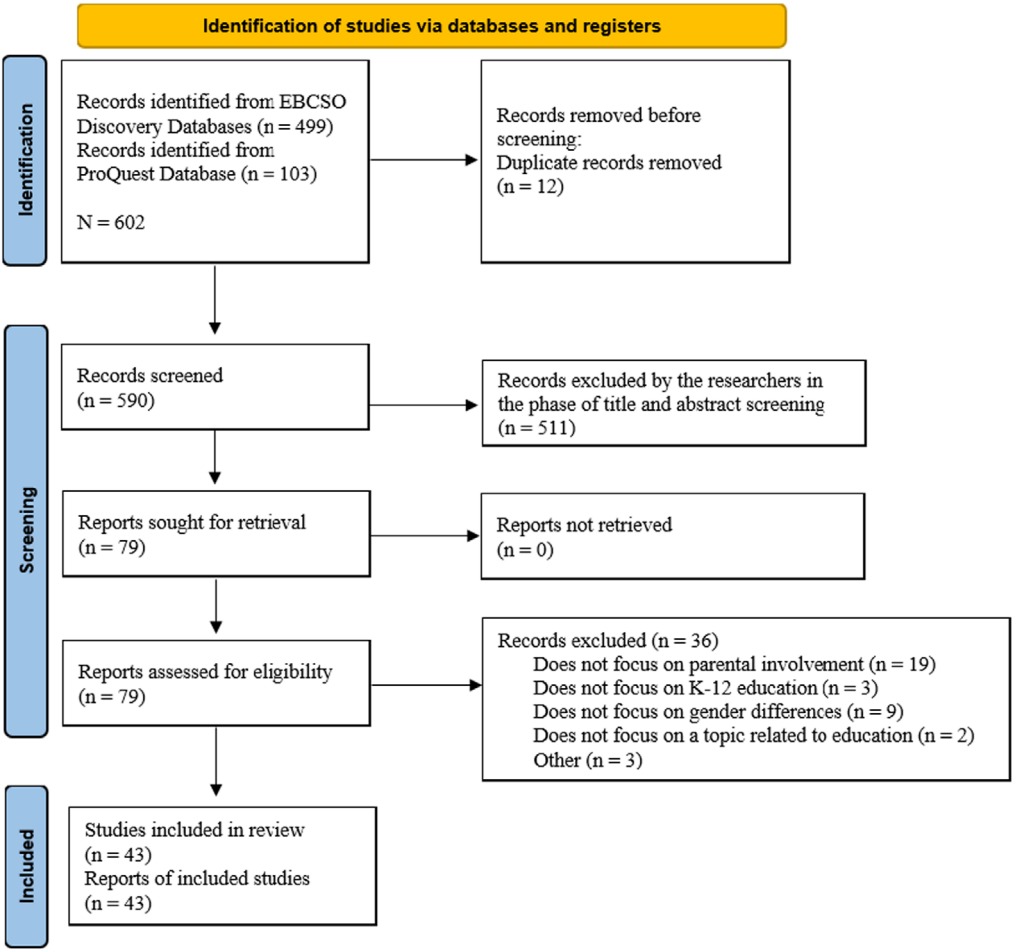


FIGURE 1 Flow diagram.

studies (Hong et al., 2018). This tool can be used to assess the methodological quality of five types of studies: qualitative research, randomised controlled trials, non-randomised studies, quantitative descriptive studies and mixed method studies. The tool is used to make a judgement of quality, categorised as: meets the methodological quality criteria or not (or we could not say). The publications were categorised as ones that met the quality criteria if they used probability sampling, used at least one control variable, used standardised instruments when measuring PI, had clear research questions and appropriate methods, provided information on how they treated missing data (NA bias), and in case of quantitative research had a sample size of at least 200. The results of the quality assessment can be found in Table 2. As a result of quality assessment, we can say that most included studies met quality criteria but a few of them have a moderate risk of bias which should be viewed as an important limitation of this study.

Synthesis methods

As a first step in the data synthesis to answer research questions 1 and 2, the data recorded in the data extraction form were summarised in tables and figures that can be seen in the

Results section. This included the analysis of data on the year of publication, country/region and minority/majority status of the sample of studies included in the review, the methodology used (quantitative/qualitative/mixed, cross-sectional/longitudinal), sample size, the level of education examined, which actor's perception of involvement was studied (parent/student/teacher), whether involvement was a dependent or independent variable, the forms of involvement examined (home-based, school-based, special, parental attitudes, parental expectations, involvement in further education decision) and which actor's gender was examined as a variable (parent/student/teacher). The tables and figures synthesising these data were complemented by narrative descriptions.

To give a narrative synthesis of the results of the analysed studies, the main topics covered by the research included in this review were identified by reading through the annotations of each study and identifying the topics covered by them using open coding. The main topics identified were gender differences in PI; the interaction effect of family structure and gender on involvement, gender differences and the impact of involvement on achievement; the combined effects of parenting principles and involvement on child outcomes and gender differences in the relationship between higher education choices and involvement. The results of the studies in each topic were summarised based on the annotations, taking into account the effects of gender highlighted and, in the case of quantitative studies, whether the results were significant. In all cases when a qualitative study was included in the review in any of the above-mentioned topics, it was analysed to get a clearer picture of the relationship between variables and their nuances.

RESULTS

Time of publication

In this section, all of the reviewed articles were analysed based on their features recorded during data extraction. To answer the first research question, the decade(s) since 1990 in which the research on the gender-related aspects of PI was the most prominent were identified. As [Figure 2](#) shows, 9.3% of the 43 publications, a total of four articles, were published before the turn of the millennium, nine papers were published between 2001 and 2010, and the remaining 30 articles (70% of the analysed studies) have been published roughly over the last decade, a trend that may indicate the growing importance of both involvement and gender studies in educational research.

Geographical characteristics

The research was dominated by target countries from the global North: a total of 16 articles focused on the US population, of which eight studies examined the situation of ethnic minorities and immigrant students' families living in the US. In addition, a total of three articles focused on Israel, two articles on the UK, Turkey and Italy, respectively, while 1–1 articles discussed results from other countries (see [Figure 3](#) and [Table A2](#)).

Methodological characteristics

Research question 2A referred to the methodology and sample size of the studies, the target groups (students, parents and/or teachers), and the level of education in focus.

TABLE 2 Summary of quality assessment using the Mixed Methods Appraisal Tool (MMAT).

Study	Meets the methodological quality criteria			
	Yes	No	Moderate risk of bias	Comments
Bæck (2010)	x			
Berrington et al. (2016)	x			
Berryhill (2017)			x	Non-probability sampling
Blau and Hameiri (2012)			x	Non-probability sampling, non-standardised instruments
Blau and Hameiri (2017)			x	Research aims instead of research questions, only one control variable
Camacho-Thompson et al. (2019)	x			No information about NA bias
Carter and Wojtkiewicz (2000)	x			No information about NA bias
Chiu (2021)	x			Non-standardised instruments
Clinton and Hattie (2013)			x	Research aims instead of research questions, non-probability sampling
Crouter et al. (1993)	x			
David et al. (2003)		x		Non-appropriate research questions for quantitative research
Eng et al. (2014)			x	Non-probability sampling, small sample size
Fincham (2019)	x			
Guo et al. (2018)	x			Sample consisting of only two elementary schools of the same town
Hartlep and Ellis (2010)			x	Secondary analysis, no information about sampling
Ing (2014)	x			
Jeynes (2005)	x			
Jung and Zhang (2016)	x			
Kalaycı & Oz (2018)		x		Methods used not suitable for answering the research questions
Kaplan (2013)			x	Non-probability sampling, small sample size, lack of control variables
Kazeem et al. (2010)	x			
Leath et al. (2020)	x			
Marshall and Jackman (2015)			x	Non-probability sampling, lack of control variables
Mencarini et al. (2019)	x			
Moon and Hofferth (2016)	x			
Muller (1998)	x			

TABLE 2 (Continued)

Study	Meets the methodological quality criteria			
	Yes	No	Moderate risk of bias	Comments
Muyini (2023)			x	Non-probability sampling, small sample size
Otani (2020)	x			
Parmar and Nathans (2022)		x		Non-probability sampling, small sample size, non-standardised instruments
Pendergast et al. (2018)			x	Non-probability sampling, small sample size
Pepe and Addimando (2014)			x	Non-probability sampling
Rogers et al. (2009)			x	Non-probability sampling, small sample size, lack of control variables
Seff et al. (2021)	x			
Sheng (2012)	x			
Silinskas and Kikas (2019)	x			
Stanikzai (2013)			x	Non-probability sampling
Suldo et al. (2012)	x			
Trask-Tate and Cunningham (2010)	x			
Unal and Unal (2010)	x			
Mau et al. (2020)			x	Non-probability sampling
Yuki et al. (2013)	x			
Zhang et al. (2007)	x			
Zdzinski (1994)			x	Non-probability sampling, lack of control variables

Looking at the methods applied, a total of five papers using small-sample qualitative analysis and three using a mixed method (quantitative and qualitative) were identified, while the majority of articles applied quantitative methods. The sample size of the quantitative analyses was mostly below 1000 and between 1000 and 10,000, and in five cases it was above 10,000 (see Table 3).

The majority of the studies looked at involvement according to the gender of students, but in nine cases both the gender of the students and their parents were included, which shows a more nuanced gender perspective through the analysis of the interaction between the different actors' gender and the gender roles they are expected to fulfil. Eight articles addressed the impact of the gender of parents, one analysed the impact of the gender of both parents and teachers, one analysed the gender of the teacher and the students, and in two studies only the gender of the teachers appeared as a main focus (see Table 4).

In our literature analysis, an examination was also conducted to determine which actor reported on PI in the studies. As shown in Table 5, PI was measured based on students' reports in 17 cases, parents' reports in nine cases, and both parent and student reports in nine cases. There were three studies in which teachers were asked about PI and two in which both parents and teachers reported on it. In three cases, involvement was measured in different ways: Blau and Hameiri (2012, 2017) used administrative data to examine online

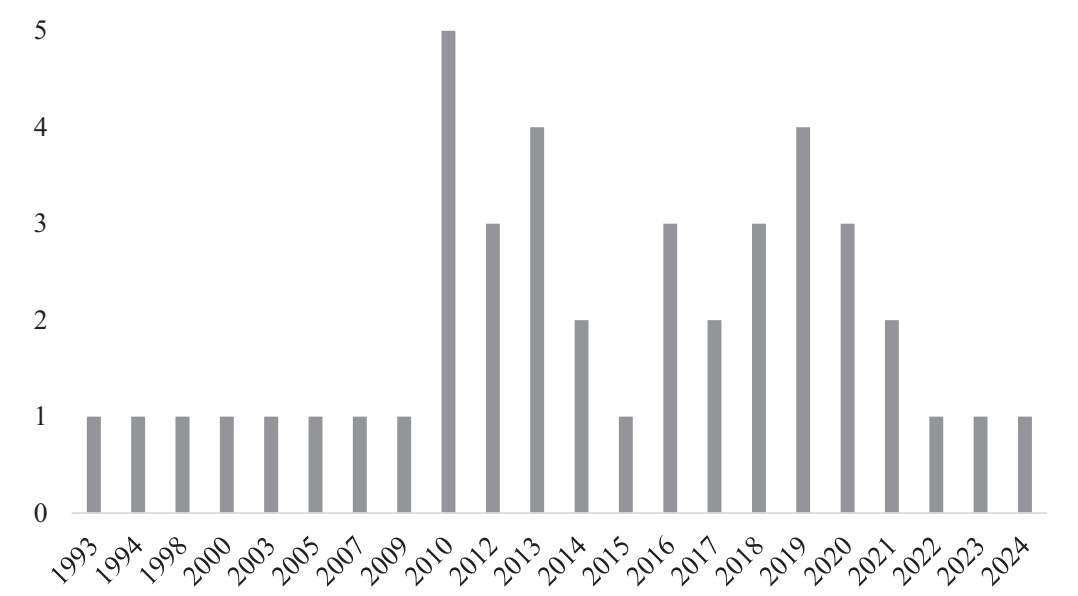


FIGURE 2 Distribution of the studies included in the literature analysis by year of publication.

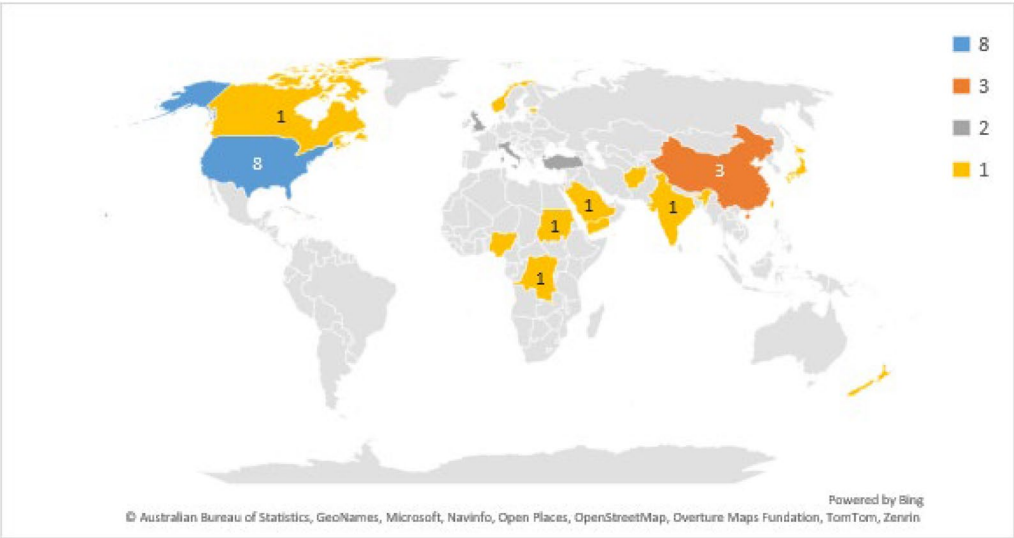


FIGURE 3 Distribution of the studies by target country.

TABLE 3 Research methodology and sample size of the studies (*N*, %).

Methodology	Sample size	<i>N</i>	%
Quantitative	Under 1000	15	34.9
	Between 1000 and 10,000	15	34.9
	Above 10,000	5	11.6
Mixed methodology	Under 1000	3	7
Qualitative	Small sample	5	11.6

TABLE 4 The distribution of the studies by target group whose gender data served as a basis for comparison.

Target group	N	%
Students	22	51.2
Students and parents	9	20.9
Parents	8	18.6
Teachers	2	4.7
Students and teachers	1	2.3
Parents and teachers	1	2.3

TABLE 5 Distribution of studies by target group which was interviewed to measure parental involvement.

Target group	N	%
Students' reports	17	39.5
Parents' reports	9	20.9
Teachers' reports	3	7
Students and parents' reports	9	20.9
Parents and teachers' reports	2	4.7
Other (administrative data, school leaders and parents)	3	7

TABLE 6 Level of education examined in the studies.

Level of education	N	%
Preschool and primary school	1	2.3
Primary school	12	27.9
Secondary school	7	16.3
Primary and secondary school	22	51.2
Music education	1	2.3

parent–school communication, while Yuki et al. (2013) explored community involvement in school decision-making by interviewing the head of the institution.

After this, the levels of education at which involvement was investigated by the studies were analysed. As the levels of schooling of students of different ages and grades may vary across countries, the groups were defined: preschool (under six years), primary school (6–14 years or grades 1–8) and secondary school (14–19 years or grades 9–12). As the data in Table 6 show, most of the studies looked at PI at both primary and secondary school, but only one study examined involvement in the preschool age group, while one article focused on music education.

To answer research question 2B, the dimensions of PI in the analyses were examined. As shown in Table 7, the proportion of studies focusing exclusively on school involvement or home involvement, or on both school and home involvement were similar. Eleven articles focused exclusively on school involvement, 12 focused exclusively on home involvement, and nine articles covered both. Eleven studies included parents' attitudes (Berrington et al., 2016; Camacho-Thompson et al., 2019; Eng et al., 2014; Fincham, 2019; Kazeem et al., 2010; Seff et al., 2021; Sheng, 2012) and expectations (Carter & Wojtkiewicz, 2000; Clinton & Hattie, 2013; Guo et al., 2018; Sheng, 2012; Trask-Tate & Cunningham, 2010) of their children's education as forms of involvement, while six articles (Eng et al., 2014;

TABLE 7 Forms of parental involvement in the studies.

Form(s) of parental involvement	N	%
Home and school involvement	9	20.9
Home involvement	12	27.9
School involvement	11	25.6
Parental attitudes and expectations as forms of involvement	11	25.6
Support and encouragement as forms of involvement	6	13.95
Special forms of involvement	6	13.95

TABLE 8 The role of parental involvement in the studies.

The role of parental involvement	N	%
Explanatory variable	19	44.2
Dependent variable	13	30.2
Dependent and explanatory variable	6	14
Not applicable (qualitative)	5	11.6

Ing, 2014; Muller, 1998; Pendergast et al., 2018; Rogers et al., 2009; Silinskas & Kikas, 2019) focused specifically on encouraging and supporting children. Involvement in children's music education (Zdzinski, 1994), in the decision to apply to higher education (David et al., 2003), online forms of involvement (Blau & Hameiri, 2012, 2017), involvement in community decision-making (Yuki et al., 2013), and critical PI, which refers to confronting racism and sexism in schools (Leath et al., 2020), were treated as special dimensions of involvement.

Research question 2C referred to the role of PI, i.e. whether it was a dependent or an independent variable in the studies. As Table 8 reveals, in most of the studies, PI functioned as an explanatory variable for student achievement or admission to higher levels of education, but it was a dependent variable in 13 studies focusing on the effect of parents', children's, or teachers' gender. In six cases, PI was included as both a dependent and an independent variable.

Narrative synthesis

In this section, all of the reviewed articles were analysed based on their thematic approach and the evidence presented. Research question 3A and 3B focused on the thematic areas covered by the studies and the major findings in each thematic area. In the narrative synthesis, six thematic areas were identified (gender differences in involvement, effect of family structure, effect of PI on student achievement, effect of parenting principles, effect of PI on higher education choices and other). The main findings of each thematic area are presented below.

Gender differences in parental involvement

The first thematic area was centred around how the gender of students, parents and teachers influences PI. Research on the relationship between *the gender of children* and *involvement* indicated that gender can have an effect on both the frequency, strength and

form of involvement. Carter and Wojtkiewicz's (2000) research in the United States found that girls were more likely to talk about school-related issues and face higher parental expectations, but that the parent–school relationship was stronger for boys. Muller's (1998) findings, also in the United States, showed higher levels of involvement for girls but also showed that parents were more involved in their children's studies if they were of the same sex as the children and that the forms of involvement differed by gender, with girls more likely to be limited in their extracurricular activities and boys more likely to be disciplined. In New Zealand, research found that the only significant gender difference in PI indicators was for talking about school activities, which showed a higher mean for girls (Clinton & Hattie, 2013). Marshall and Jackman's (2015) data from Barbados also revealed that PI was higher for girls there. Parmar and Nathans' research (2022) in India similarly found a higher perceived PI and warmth in the case of girls. Likewise, Jeynes' (2005) study of African American parents in the United States found that girls had higher levels of PI. In contrast, Leath et al.'s (2020) research on African American children in the United States found that some specific forms of involvement were more prevalent for male children. Their results showed that both fears of academic difficulties and fears of the negative effects of teachers' racial and gender stereotypes were more pronounced for boys, and so was critical PI (i.e., confronting sexism and racism in school). Furthermore, data from Estonia by Silinskas and Kikas (2019) showed that boys had higher perceived parental control, but another research based on US data suggested that there was no significant variation in parental support as perceived by teachers according to the gender of children (Pendergast et al., 2018).

Most of the studies on the differences according to the gender of parents pointed to the more intense involvement of mothers. Two US-based studies showed that maternal involvement and monitoring were higher than paternal involvement (Crouter et al., 1993; Muller, 1998). Two Israeli papers investigating online forms of involvement found that, both in terms of online interactions between parents and teachers and in terms of monitoring child outcomes, maternal involvement was found to be stronger (Blau & Hameiri, 2012, 2017). Results from a Norwegian study on school involvement (Bæck, 2010) also showed higher levels of maternal activity, both for participation in parent–teacher conferences and other formal school events and for PTA membership. Sheng's (2012) research in China also found higher levels of maternal involvement, with mothers being directly involved in their children's studies and responsible for the day-to-day implementation of plans made with fathers. The results showed that fathers mainly participated in planning, that direct involvement was less common, and that many fathers came into contact with their children's studies by monitoring maternal involvement. Based on US data, Hartlep and Ellis (2010) showed that mothers from the Pacific Islands were the most likely to help their children with homework, followed by African American, Hispanic, Asian, white and Native American mothers, and mothers from other minorities. As for fathers, African American fathers were the most likely to be involved, followed by Pacific, white, Native American, Hispanic and Asian.

Four other articles concluded that countries that are more inclined to foster traditional gender roles (Turkey, Afghanistan, Cambodia) had higher levels of paternal involvement than most developed countries. Two studies from Turkey found that fathers were more involved in their children's academic progress than those in Western countries and were more likely to visit the school if there was a problem with their children (Kalaycı & Oz, 2018; Unal & Unal, 2010). According to a study in Afghanistan, fathers' involvement was perceived to be higher by teachers regardless of child gender, a trend the author explained as a result of the strong patriarchal nature of Afghan culture. Whereas mothers were more likely to play a role in supporting learning at home, the fathers' role included communication with the school and participation in school community activities

TABLE 9 Summary of findings regarding gender differences in parental involvement.

Topic	Main findings	References
Student gender	Parental involvement is more pronounced in the case of daughters, but there is a higher intensity for boys in the case of some forms of parental involvement (e.g. discipline, critical involvement) Mothers are more involved in their daughters' studies, while fathers are more involved in their sons'	Carter and Wojtkiewicz (2000), Muller (1998), Clinton and Hattie (2013), Marshall and Jackman (2015), Nathans (2022), Jeynes (2005), Leath et al. (2020), Silinskas and Kikas (2019), Pendergast et al. (2018)
Parent gender	A higher involvement of mothers was indicated in the global North, while in the global South, fathers are more involved	Crouter et al. (1993), Muller (1998), Blau and Hameiri (2012), Blau and Hameiri (2017), Bæck (2010), Sheng (2012), Hartlep and Ellis (2010), Unal and Unal (2010), Kalaycı and Oz (2018), Stanikzai (2013), Eng et al. (2014)
Teacher gender	The effect of the gender of teachers was rarely discussed in the analysed studies The teacher's gender has an effect on mothers' and fathers' involvement – parents are more likely to be more involved with a teacher of the same gender Female teachers tend to involve parents more	Unal and Unal (2010), Stanikzai (2013), Muyini (2023)

(Stanikzai, 2013). Eng et al.'s (2014) study on the involvement of parents of Cambodian origin in the United States found that fathers showed higher involvement with male children and mothers with female children, and that this effect was even stronger when the parents' attitudes towards gender roles were more traditional.

The gender of the teacher was the focus of four studies. One study in Turkey found that the more male teachers there were, the more the fathers would be involved (Unal & Unal, 2010), while Stanikzai's (2013) findings in Afghanistan, as we have seen, suggested that school involvement was primarily the responsibility of fathers, especially in larger urban schools, and that if the teacher was female, mothers were more likely to be involved. Finally, Muyini (2023) found that male teachers in Saudi Arabia expect parents to take a passive role and prefer one-way communication with parents, while female teachers there are more supportive and work more closely with parents. Stanikzai (2013) found that teachers in Afghanistan mostly involve fathers, but the norm of gender segregation in Afghanistan is making teacher-parent cooperation harder – male teachers may not be able to invite mothers to teacher-parent meetings while female teachers may not be able to meet fathers.

For the summary of the findings regarding gender differences in PI, see Table 9.

The interaction effect of family structure and gender on involvement

The next group of articles examined how gender differences in PI affected parents and their children in different family structures. This subject was addressed in three studies in total, but the results proved to be inconsistent. Mencarini et al. (2019) in Italy found that children of single mothers tended to spend less time in education and that it was mainly male children who were disadvantaged. Crouter et al. (1993) examined PI by the number of breadwinners in the family, focusing on the child's and parent's gender. Their results showed that fathers

TABLE 10 Summary of findings regarding the effect of family structure and gender on parental involvement.

Topic	Main findings	References
Student gender	Boys are more likely to be negatively affected by growing up in a single-parent family	Mencarini et al. (2019)
Student and parent gender	In families where the father is the only breadwinner, fathers tend to be significantly more involved in their sons' studies	Crouter et al. (1993)
Parent gender	Co-parenting and support between the parents increases the involvement of both mothers and fathers	Berryhill (2017)

in two-earner families spent about the same amount of time with their sons and daughters, but in one-earner families, they spent three times as much time with their sons as with their daughters. Furthermore, perceived parental warmth and involvement did not depend on whether the family was a single- or dual-earner one. The third study, also from the United States, found that biological fathers and mothers living separately but sharing parental custody and having a higher level of co-parenting support for each other increased fathers' involvement in school and both mothers' and fathers' involvement at home (Berryhill, 2017).

For the summary of the findings regarding the effect of family structure and gender on PI, see Table 10.

Gender differences and the impact of PI on achievement

The next thematic area was the impact of maternal and paternal involvement on the achievement of male and female students. Most studies on the subject found that PI had different effects on boys and girls. Ing's (2014) research in the United States found that perceived parental support had a positive effect on maths achievement for boys but no such effects were detected for girls. However, it had a positive impact on science achievement and its improvement for both girls and boys. Muller's (1998) study, also in the United States, found that greater involvement had a positive effect on girls' mathematics test scores, implying that PI reduced gender stereotypes and that girls caught up with boys in mathematics scores because of greater PI. Parmar and Nathans (2022) found in India that in the case of boys, higher PI and warmth resulted in higher achievement and fewer behaviour problems. However, in the case of girls, only parental warmth had a similar effect.

In Estonia, Silinskas and Kikas (2019) showed that parental control had a negative effect on boys' persistence in doing homework and maths self-efficacy, while it had no significant effect on girls'. Kaplan's (2013) research in Israel also investigated the impact of PI on achievement and children's self-evaluation. In this case, the effect on boys and girls depended on the form of involvement. Home involvement had a positive effect on girls' development, parental volunteering at school had a positive effect on boys' development, and PI at school had a negative effect on boys' academic achievement. However, Otani's (2020) research in Japan found that PI at home had more impact on boys' attitudes and achievement in mathematics and science.

Moon and Hofferth's (2016) research among immigrant families in the United States found that PI at home increased boys' reading and mathematics achievement but it did not have a similar effect on girls. Other data on immigrant families in the United States indicated that PI at school had an indirect effect on achievement for both boys and girls through the children's own aspirations for postsecondary education. However, it was also shown that for boys, strong parental control had a negative impact on their cognitive development (Jung &

TABLE 11 Summary of findings regarding gender differences and the impact of parental involvement on achievement.

Topic	Main findings	References
Student gender	Parental involvement has a different effect on boys and girls, but the results are inconclusive on these differences	Ing (2014), Muller (1998), Parmar and Nathans (2022), Silinskas and Kikas, 2019, Kaplan (2013), Moon and Hofferth (2016), Jung and Zhang (2016), Guo et al. (2018)

Zhang, 2016). A study in China examined the impact of socioeconomic status (SES) by looking at boys' and girls' reading test scores. For boys, parental income and education affected reading achievement through parental expectations and parent–child communication. For girls, parental education influenced reading achievement through home monitoring, parent–child communication and parental expectations, while family income influenced reading achievement through parent–child communication only (Guo et al., 2018).

For the summary of the findings regarding gender differences and the impact of PI on achievement, see Table 11.

The combined effects of parenting principles and involvement on child outcomes

The next group of studies examined the joint effects of parenting principles and involvement. Based on Canadian data, Rogers et al. (2009) observed that both fathers and mothers were more likely to become involved by organising the learning environment for girls and exercising pressure on boys related to their academic work. The results showed that involvement affected achievement through children's academic self-image and competences: maternal involvement showed a positive relationship with all dimensions of children's self-image and educational characteristics, but academic pressure was negatively related to self-image in reading comprehension. Paternal academic pressure was associated with lower academic competence and a worse self-image in reading comprehension and mathematics, but paternal support and encouragement were linked with higher scores. As boys are more likely to experience stronger parental pressure, this may negatively affect their achievement through the variables presented. A study among immigrants of Mexican origin living in the United States found that fathers' involvement increased girls' preparation for post-secondary education, but only when they were not harsh with their daughters, whereas fathers' involvement increased their sons' preparation for post-secondary education exactly when they were harsh with them (Camacho-Thompson et al., 2019). Chiu's (2021) research in Taiwan showed that in late adolescence boys' performance was positively affected by paternal monitoring, maternal listening, and maternal persuasion in case of conflict, while for girls it was paternal school involvement, and, in the case of conflict, talking to the mother or letting the problem go that had a positive effect. For girls in late adolescence, paternal persuasion and talking about the conflict had a negative effect. A study in the United States found that the positive impact of joint activities with parents was mainly seen in mother-daughter relationships, where quality time with the mother was associated with positive psychosocial outcomes (lower depression rates, higher self-esteem). The worst outcomes were for girls whose mothers showed low levels of emotional warmth as well as involvement. For boys, maternal warmth and involvement also had a positive effect, but the worst outcome was associated with low levels of warmth and high levels of involvement. Regarding fathers, involvement did not have an effect on children, but perceived warmth did: it led to lower depression and anxiety rates and higher self-esteem (Crouter et al., 1993).

TABLE 12 Summary of findings on the combined effects of parenting principles and involvement on child outcomes.

Topic	Main findings	References
Student gender	Parents use different principles when involved in their daughters' and sons' studies: in the case of boys, parents tend to use discipline in their involvement	Rogers et al. (2009)
Parent and student gender	Less harsh parenting has a more positive effect on girls, and perceived warmth from fathers is more important than the perceived warmth of mothers	Camacho-Thompson et al. (2019), Chiu (2021), Crouter et al. (1993)

For the summary of the findings on the combined effects of parenting principles and involvement on child outcomes, see [Table 12](#).

Gender differences in the relationship between higher education choices and involvement

A total of five studies dealt with the involvement of parents in their children's higher education plans. Research by David et al. (2003) in the UK showed that girls were more co-operative with parents in postsecondary education choices, while boys tended to follow more individual strategies. Girls were more likely to involve their mothers in the decision, while boys tended to turn to their fathers. Berrington et al. (2016), also in the UK, found that there were also differences in such involvement between races, as black and South Asian respondents reported higher involvement than white respondents. The results of Trask-Tate and Cunningham's (2010) study of African American families showed that while for girls, a favourable background and high PI increased their plans to continue education, for boys, it was a favourable background and low involvement that had a positive effect.

The results of Zhang et al. (2007) on a Chinese sample showed that maternal gender attitudes and expected future returns on children's education had an effect on mothers' aspirations concerning their sons and daughters' future studies. Girls' plans for higher education were least supported by mothers whose gender role attitudes were traditional. However, mothers who expected significant financial support from their children in old age expected them to attain higher qualifications. Mau et al. (2020) conducted comparative research on data from US and Taiwanese students on the impact of involvement on higher education plans in STEM. Their results showed that in the Taiwanese sample, PI increased boys' STEM aspirations more than girls', but no such difference was detected in the US sample.

For the summary of the findings on gender differences in the relationship between higher education choices and involvement, see [Table 13](#).

Other topics in the studies reviewed

Three articles examined the impact of PI in reducing girls' attrition and increasing their participation in education. A study in Nigeria found that among children of parents who believed that boys' education was more important than girls' education, girls were 45% more likely to be at risk of dropping out (Kazeem et al., 2010). A study in Sudan also examined the causes of girls dropping out from primary school. Their results showed that maternal involvement was more important, as mothers were more available at home, but that paternal attitudes were also crucial as fathers made financial decisions in families. More progressive gender role attitudes led to more family support for girls' education (Fincham, 2019). The third article was

TABLE 13 Summary of findings on gender differences in the relationship between higher education choices and involvement.

Topic	Main findings	References
Student gender	Girls are more likely to involve their parents in making their postsecondary education choices	David et al. (2003)
Parent and student gender	Children tend to involve the parent of the same gender in making their postsecondary education choices In the African American population, lower parental involvement and a favourable background increase the likelihood of boys deciding to continue their studies, while for girls, higher parental involvement has the same effect The parent's gender attitudes have a significant effect on whether they support their daughter's plans for applying to higher education There are significant cultural and geographical differences in the effects of parental involvement on the higher education choices of girls and boys	David et al. (2003), Berrington et al. (2016), Trask-Tate and Cunningham (2010), Zhang et al. (2007), Mau et al. (2020)

somewhat more practical than the other two. It examined the effectiveness of a project, the BRIDGE model (Broadening Regional Initiative for Developing Girls' Education) in Yemen. The programme increased girls' participation in education, but there was a decline when it came to an end. Half of the schools experienced a decline after the project ended, but half of them were able to sustain enrolment rates. Differences between schools can be explained by the views of school principals on gender roles. Furthermore, schools where a mothers' association was established to support girls' education were more likely to sustain the impact of the programme (Yuki et al., 2013). Finally, Seff et al. (2021) also investigated the impact of a project (COMPASS) on the school participation of girls in the Democratic Republic of the Congo. The project aimed to promote caregivers' gender-equitable attitudes. As a result of the project, the caregivers' attitudes significantly changed, girls' school participation increased by 35 per cent, and these two factors showed a significant correlation.

A somewhat specific subject is the study of music education and PI. A study in the United States showed that the relationship between PI and cognitive performance was stronger for boys, and the relationship between PI and affective indicators was stronger for girls. It was also pointed out that the effect of maternal involvement was stronger on affective indicators than when both parents or only the father was involved, and the effect of paternal involvement was stronger on cognitive and performance indicators than when both parents or only the mother was involved (Zdzinski, 1994).

In another paper, the dependent variable was students' mental health problems as a function of PI and other variables. PI was shown to reduce mental problems and disordered behaviour, but only for girls (Suldo et al., 2012). Finally, a study from Italy examined factors determining counterproductive parental behaviour in teacher–parent relationships, but there were no significant differences when it came to the parents' gender (Pepe & Addimando, 2014).

To summarise the findings of our narrative synthesis, see the subtopics covered by the studies included in the review and the areas identified as research gaps on the topic of gender aspects of PI in Table 14.

DISCUSSION

This systematic literature review of 43 studies explored how student, parent and teacher gender influence PI and engagement. According to our results, most studies were published

TABLE 14 Summary of the topics covered by the studies reviewed and the research gaps the studies involved did not/only partially covered.

Topics	Findings	Research gap
Gender differences in involvement	A higher involvement of mothers was indicated in the global North, while in the global South fathers were more involved in their children's studies Parental involvement is more pronounced in the case of daughters	The effect of the gender of teachers is rarely discussed in the literature Only a few papers focus on parental involvement in the global South
The effects of family structure on involvement	Single parenthood is associated with lower parental involvement	The parental involvement of divorced fathers and the effect of involvement of single parents on girls' and boys' achievement is rarely discussed
The effect of parental involvement on student achievement	Higher parental involvement is associated with higher achievement in the case of girls, and lower achievement in the case of boys	The impact of fathers' and mothers' involvement on their children's school outcomes is rarely compared The direction of the causal link between parental involvement and the school achievement of children is rarely discussed
The effect of parenting principles	Different parenting principles lead to different forms and levels of parental involvement and have different effects on boys and girls	The association between parental principles of fathers and mothers and parental involvement is rarely discussed
The effect of parental involvement on higher education choices	Girls are more likely to involve parents, especially their mothers, in their decision about higher education, while boys are more likely to involve their fathers	It is unclear whether parents getting involved in their children's higher education choices can be understood as a dimension of parental involvement
Other topics	Gender differences in involvement can be found in dropout prevention and extracurricular activities The impact of parental involvement on the mental health of students differs by student gender	There was no study focusing on the gender of the parent among immigrant families Some studies focusing on ethnic minorities, however, showed that minority parents' involvement might be higher regardless of their gender in contrast to majority group members (Berrington et al., 2016)

after 2010 and targeted primary and secondary school age groups. Geographically they mainly covered countries in the global North but some studies focused on minorities in these countries and a few examined the global South.

Our second research question was about the methodology, sample size, target group, measurements and the dimensions of PI in the examined papers. The majority of the studies applied quantitative methods with large sample sizes, with the greater part of the studies based on student and parent gender, and with teacher gender appearing as a criterion of analysis in four studies. Involvement was mostly measured relying on student or parent reports, using a variety of measuring instruments. PI was an explanatory variable in half of the studies, and in the other half, it was either only a dependent variable or both a dependent and an explanatory variable.

The main conclusions drawn from the narrative synthesis of the studies were that there was a very small body of qualitative research on the topic, the majority of the studies included were related to the majority groups in the countries of the global North, teachers' perceptions were rarely considered when PI was measured, and that only four studies examined the impact of teacher gender on PI.

In our narrative synthesis of the articles, six thematic areas were identified and new themes emerged in addition to the original hypotheses, such as the impact of PI on children's

academic achievement being coloured by parenting principles and family structure. In addition, gender differences emerged as a separate subject area related to involvement in postsecondary education decisions, participation in education, dropout prevention and extracurricular activities. The gender differences and the impact of PI on the mental health of students and gender differences in counterproductive parent behaviour in teacher–parent relationships were also investigated.

Next, the main findings were summarised by thematic area. The studies belonging to the first area concluded that mothers in the majority groups in the countries of the global North are more often involved than fathers, but fathers' involvement is stronger in countries with more traditional gender roles and in minority groups in the global North. This is linked to the fact that women's presence and public participation outside the home is still low or even limited in some countries (e.g. Afghanistan) (Stanikzai, 2013). Moreover, the fact that the feminisation of the teaching profession is not common outside the global North also discourages mothers from taking part in the school-related dimensions of PI (Stanikzai, 2013). Based on our findings, it can be said that gender roles affecting PI look different in the global South and the global North, and also in dominant and minority groups (e.g. immigrants or ethnic minorities). It was found that in countries of the global North, most results are in line with what we know of 'Western' gender roles: mothers are more involved in their children's studies and this involvement comes with an advantage for the children, but fathers' involvement is only higher when the family structure is not intact and mostly focuses on their male children (Berryhill, 2017; Crouter et al., 1993). In the global South, data paints a different picture: mothers are responsible for taking care of their children (e.g. dressing them up and preparing them food for school days), but fathers are the ones making important decisions about their children's school career and they are the ones meeting the teachers (who in some cases are also mostly males) (Muyini, 2023; Stanikzai, 2013). There was no study focusing on the gender of the parent among immigrant families, so a conclusion on the gender roles among these groups cannot be drawn. Some studies focusing on ethnic minorities, however, showed that minority parents' involvement might be higher regardless of their gender in contrast to majority group members (Berrington et al., 2016).

Looking at the gender of the child, it was found that most studies show higher levels of PI for girls, and the nature of involvement, i.e. which parent is more active in which aspect of involvement, also varies by child and parent gender, with some studies finding that mothers are more involved for girls and fathers for boys. This result is in line with Kearney's (2023) findings showing that boys' relative disadvantage at school might be explained in part by the fact that they are more responsive to growing up in families led by a single mother.

The second thematic area was the effect of family structure on PI. Whether both parents have to work is also an important factor influencing involvement: research on the interaction effect of family structure and gender suggests that single parenthood is a disadvantage because of lower PI, but it is debated whether this has a stronger negative impact on male or female children. However, when parental occupation, class and education are controlled for, the intersection effects of family structure and gender on PI and achievement are very weak; for example, children from single-parent families even have the highest aspirations for postsecondary education. In two-earner families, fathers are involved to a similar extent with their male and female children, but in single-earner families, fathers' involvement is higher with their sons (Crouter et al., 1993).

The third thematic area was the impact of PI on children's outcomes by gender. Some studies have shown that higher PI does not always increase student achievement, especially for male children, as lower achievement for boys is associated with higher involvement (Silinskas & Kikas, 2019).

As for the fourth thematic area, a noteworthy finding is that involvement along different parenting principles (restrictive or permissive, pressuring or supportive) leads to different outcomes

and effects for boys and girls. While in the case of boys restrictive and pressuring parenting proved to be effective, in the case of girls the supportive and permissive attitude led to higher performance (e.g. Camacho-Thompson et al., 2019). It is also important to note that parents' gender role attitudes are key factors in the effect their involvement has on girls' education. In some cultures that are mostly dominant in countries of the global South, girls' education is not seen as equally valuable to boys' schooling. In these cultures, we can see that when parents follow the dominant gender norms, their daughters are less likely to finish K-12 education and go on to higher education (Fincham, 2019; Kazeem et al., 2010; Zhang et al., 2007).

The effect of PI on higher education choices emerged as a fifth thematic area. Originally, this paper did not aim to deal with PI in postsecondary education choices, but the topic came into focus during the narrative synthesis. Overall, higher levels of involvement increase the likelihood of the child choosing to continue their studies, but in the case of some minority groups, this is only true for girls (Trask-Tate & Cunningham, 2010). Girls are more likely to involve parents in the decision-making process than boys, and girls are more likely to involve their mothers, while boys are more likely to involve their fathers (David et al., 2003).

Implications for future research

Our findings highlight crucial gaps in the existing literature on PI, particularly concerning the importance of the fathers' role, single parenthood, teacher gender, and the scarcity of qualitative research, limiting the understanding of PI dynamics. Future research should focus on qualitative studies that delve into the lived experiences of parents, and the impact of teacher gender on PI. The differences in involvement and engagement and their effect on boys' and girls' achievement also remain an important topic for future research. As much of the research has focused on countries in the Global North, it is also essential that new research on the topic is conducted across a wide range of cultures and geographies, as PI varies markedly along these dimensions.

Implications for policy and practice

Based on our results, gender is a key variable in PI. Accordingly, practitioners and policy-makers should pay particular attention to the gender dynamics of PI when designing interventions and strategies to engage both mothers and fathers. As gender roles and expectations, as well as the division of labour and gender relations, are deeply embedded in culture, it is also essential to take the cultural and social context into account when developing new policies that aim to increase PI. Our results have additionally shown that boys and girls respond differently to maternal and paternal involvement in different contexts, so creating inclusive policies that promote the equitable engagement of both parents can improve the educational outcomes of both boys and girls.

Limitations

A limitation of our analysis is that, due to the monolingual nature of the search, there were cultural constraints. As the search was exclusively conducted on papers published in English, we found studies mostly from English-speaking areas, mainly the United States, so we were only able to summarise the characteristics of global North cultures in our exploration of the relationship between PI and gender. However, research on minority groups in the countries of the global North also appeared in some papers. At the same time, the articles presenting

research outside the Euro-Atlantic world point out that certain characteristics of PI, described as general regularities in the literature, come from the low number of research studies conducted in these regions. Only examining studies that were published in English resulted in a bias, as it only reflects the Western European and North American perspectives, which is an important limitation of our systematic literature review. As a further limitation, it is necessary to mention that only empirical articles were included, and therefore the potential richness of gender-centred theoretical approaches to PI is not reflected in our research results.

CONCLUSION

Our systematic review on the gender aspects of PI provided data that is essential to understanding how gender roles influence parent–school cooperation and student outcomes. By analysing existing research, this systematic literature review aimed to identify gender disparities in involvement, uncover barriers faced by different genders, and highlight the efficiency of equitable forms of PI.

Our results have confirmed that the school–parent relationship and PI and engagement cannot be explored or developed without considering the gender of parents, children or teachers. In addition, rapidly changing gender roles, which vary culturally, spatially and temporally, are also changing the way parents are involved in school and support their children's studies, and the process of change in gender roles affects parents' school and home involvement alike. Policies on parental school involvement and engagement therefore need to take all these factors into account. The main conclusions drawn from the analysis of the studies were that there was a very small body of qualitative and longitudinal research, the majority of the studies were related to majority groups in the countries of the global North, teachers were rarely interviewed when PI was measured, and that only four studies examined the impact of teacher gender on PI.

The novelty of our study is that it has shown that there is not a unidirectional association between PI and achievement according to child gender and that this effect is further coloured by several factors (family structure, culture, gender role perceptions, parenting principles). Taking this into account, it is essential to focus not only on the gender of the actors but also on these factors when examining PI and developing new educational policies.

AUTHOR CONTRIBUTIONS

Emese Alter: Conceptualization; methodology; writing – original draft; data curation; writing – review and editing; resources. **Hajnalka Fényes:** Conceptualization; writing – original draft; formal analysis; writing – review and editing. **Gabriella Pusztai:** Conceptualization; funding acquisition; writing – review and editing; writing – original draft; formal analysis.

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CONFLICT OF INTEREST STATEMENT

The authors declare that they have no competing interests.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

ETHICS STATEMENT

Since this paper is a literature review, no empirical data on either human or animal subjects was used. The Ethics Committee of the Doctoral School of Human Sciences at the University of Debrecen confirmed the ethics approval.

ORCID

Emese Alter  <https://orcid.org/0000-0002-4441-9853>

Hajnalka Fényes  <https://orcid.org/0000-0002-1509-0534>

Gabriella Pusztai  <https://orcid.org/0000-0002-6682-9300>

ENDNOTE

¹Accucoms – COVID-19 resources, ACM Digital Library, Arts & Humanities (Proquest), Bibliotheca Corviniana Digitalis, Biological Abstracts 2000–2004, Biomedical & Life Sciences Collection, BMJ Journals, Business Source Premier, CAB Abstracts, Cambridge Journals, ChemSpider, CNKI, Cochrane, COMPASS, [Congress.gov](https://www.congress.gov), De Gruyter Journals, Directory of Open Access Journals (DOAJ), Ebook (Springer), Ebook Collection (Ebsco), EbookCentral (Proquest), EBSCOHost, Elsevier, Elsevier – SciVal, ELTE Reader, Emerald, EMIS University – Central and South – East Europe, EndNote, ERIC, European Parliament Legislative Observatory, EUR-Lex, Europeana Collections, EUROSTAT, FSTA (Food Science and Technology Abstracts), GALE Literary Sources (GLS), Gale Reference Complete, Global Health and Human Rights Database, Grove Music Online, HUMANUS, HUNGARICANA, IJOTEN, Impact Factor (Journal Citation Reports), InCites, International Human Rights Network, Internet Archive, JSTOR, MATARKA, MathSciNet, MathSciNet (EBSCOhost), MEDLINE (EBSCOhost), MEDLINE (PubMed), Medscape, Nature Journals, NEJM Group – COVID-19 resources, Nutrition and Food Sciences, Oxford Handbooks Online (OHO) – Criminology and Criminal Justice, Oxford Handbooks Online (OHO) – Law, Oxford Scholarship Online (Law Collection), Oxford University Press (OUP) Journals, Project Gutenberg, ProQuest – One Academic, PubMed, PubMob, RefWorks, SAGE Journals, Science Direct, Science Magazine, SciFinder, Scifinder-n, SCImago Journal and Country Rank (SJR), SciTech (Proquest), SCOPUS, SHERPA/RoMEO, SpringerLink, Statista, SzocioWeb, Taylor and Francis Online Library, The Historical Map Portal, United Nations Treaty Collection, UpToDate Advanced, Web of Science, Wiley Online Library, World Biographical Information System, zbMATH, International Directory of Music Resources, STATAD.

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APPENDIX A

TABLE A1 Data extraction table.

Short citation	Country/region; ethnicity/citizenship status of participants	Method	Sample size	Level of education examined	Role of participants	Involvement/engagement as a dependent/independent variable	Form of involvement examined	Which gender's effect is examined	Main findings
Berryhill (2017)	USA, local citizens/majority group members	Quantitative, longitudinal	1000–10,000	Primary and secondary school	Parents	Dependent	Home-based and school-based	Parents	Mothers are significantly more involved than fathers
Bæck (2010)	Norway; local citizens/majority group members	Quantitative	1000–10,000	Secondary school	Parents	Dependent	School-based	Parents	
Berrington et al. (2016)	UK; local citizens/majority group members	Quantitative	1000–10,000	Primary and secondary school	Students	Independent	Parental attitudes	Students	In the case of black and South Asian respondents, it was more important for the parents that their children continue their studies than in the case of white parents. When parental occupation class and education are controlled for, the effect of family structure is very weak, and children in single-parent families have the highest aspirations to further education
Blau and Hameiri (2012)	Israeli; local citizens/majority group members	Quantitative	>10,000	Primary and secondary school	Administrative data	Dependent	Special (using the online platform of the school)	Parents	Through the school's online system, teachers are significantly more likely to contact mothers than fathers, but mothers themselves are significantly more active than fathers
Blau and Hameiri (2017)	Israeli; local citizens/majority group members	Quantitative	>10,000	Primary and secondary school	Administrative data	Dependent	Special (using the online platform of the school)	Parents	When teachers use the school's online system to reach out to parents, parents are also more active, but overall mothers are more active in this form of involvement than fathers
Camacho-Thompson et al. (2019)	USA; students of Mexican origin	Quantitative, longitudinal	1000–10,000	Primary school	Parents	Independent	Parental attitudes, school-based	Parents and students	Both maternal and paternal involvement significantly explain the educational attainment of boys only. For boys, strict fraternal attitudes have a positive effect, while for girls it has a negative effect

(Continues)

TABLE A1 (Continued)

Short citation	Country/region; ethnicity/citizenship status of participants	Method	Sample size	Level of education examined	Role of participants	Involvement/engagement as a dependent/independent variable	Form of involvement examined	Which gender's effect is examined	Main findings
Eng et al. (2014)	Cambodia; local citizens/majority group members	Qualitative	Small sample	Primary school	Parents	Dependent and independent	Parental expectations, parental attitudes, home-based, school-based	Students	There was no significant difference in involvement by child gender, but as the number of siblings increased, the level of involvement at home decreased significantly, and with a higher number of siblings and stronger traditional gender role attitudes, parental responsiveness decreased significantly
Fincham (2019)	Sudan; local citizens/majority group members	Qualitative	Small sample	Primary and secondary school	Parents and students	–	Parental attitudes	Parents and students	Girls in two-parent families have better opportunities for dropout from primary school. In the case of divorce or the death of a parent, the likelihood of a girl having to drop out increases drastically. Fathers of girls who dropped out were less involved, and parents' traditional gender role attitudes increased the chances of girls dropping out
Guo et al. (2018)	China; local citizens/majority group members	Quantitative	>1000	Primary school	Students	Independent	Parental expectations	Students	For boys, parental income and education affected reading achievement through parental expectations and parent–child communication. For girls, parental education influenced reading achievement through home monitoring, parent–child communication and parental expectations, while family income influenced reading achievement through parent–child communication only

Hartlep and Ellis (2010)	USA; local citizens/majority group members	Quantitative	>10,000	Primary and secondary school	Parents	Dependent	School-based	Parents	Among mothers, Pacific Islanders are the most likely to be involved in helping with the child's homework, followed by Black minority mothers, then Hispanic minority, Asian minority, White, Native American mothers, and other minorities. For fathers, Black fathers are most likely to be involved, followed by Pacific Islander minority, White, Native American, Hispanic minority, and Asian fathers
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TABLE A1 (Continued)

Short citation	Country/region; ethnicity/citizenship status of participants	Method	Sample size	Level of education examined	Role of participants	Involvement/engagement as a dependent/independent variable	Form of involvement examined	Which gender's effect is examined	Main findings
Carter and Wojtkiewicz (2000)	USA; local citizens/majority group members	Quantitative, longitudinal	>10,000	Primary and secondary school	Students	Dependent	Parental expectations, home-based	Students	Parental involvement is more intensive in the case of girls with one exception: the level of parent-school communication is higher in the case of boys
Chiu (2021)	Taiwan; local citizens/majority group members	Quantitative, longitudinal	1000–10,000	Primary and secondary school	Parents and students	Dependent	Home-based and school-based	Parents and students	In late adolescence, boys' performance is positively affected by paternal monitoring, maternal listening and maternal persuasion in the case of conflict, while for girls it is paternal school involvement and talking to the mother or letting go of conflict in the case of conflict that have a positive effect. For girls, in late adolescence, paternal persuasion and talking about conflict have a negative effect
Clinton and Hattie (2013)	New-Zealand; local citizens/majority group members	Quantitative	1000–10,000	Secondary school	Students	Independent	Parental expectations, school-based	Students	The only significant gender difference in parental involvement was found for talking about school activities, with a higher mean for girls
Crouter et al. (1993)	USA; local citizens/majority group member	Quantitative, longitudinal	<1000	Primary and secondary school	Parents and students	Independent	Home-based	Parents and students	Maternal monitoring and involvement is higher than paternal for both boys and girls. Paternal involvement is generally lower, but more so for boys. In two-earner families, fathers spent about the same amount of time alone with their sons and daughters, while in one-earner families fathers spent 3 times as much time with their sons as with their daughters
David et al. (2003)	UK; local citizens/majority group members	Qualitative	Small sample	Primary and secondary school	Parents and students	–	Special: decision to apply to higher education	Parents and students	Mothers are more involved in their children's decision to continue their education, boys involve their parents less and if they do, it is mainly the father, and for girls, it is the mother. Working-class mothers are more involved, fathers are often involved in the decision in a distant, authoritarian way

(Continues)

TABLE A1 (Continued)

Short citation	Country/region; ethnicity/citizenship status of participants	Method	Sample size	Level of education examined	Role of participants	Involvement/engagement as a dependent/independent variable	Form of involvement examined	Which gender's effect is examined	Main findings
Ing (2014)	USA; local citizens/majority group members	Quantitative, longitudinal	1000–10,000	Primary and secondary school	Students	Dependent and independent	Parental support, home-based and school-based	Students	Although the level of parental support perceived by girls and boys did not differ, there were gender differences in its effects. Perceived parental support had a significant effect on math achievement for boys, but no such effect was found for girls. Perceived parental support had a positive effect on science achievement for both boys and girls
Jeynes (2005)	USA; African American minority	Quantitative	1000–10,000	Secondary school	Parents and students	Independent	School-based	Students	Girls had higher levels of parental involvement
Jung and Zhang (2016)	USA; immigrant students	Quantitative	1000–10,000	Primary school	Parents	Independent	Home-based and school-based	Students	Parental control and monitoring is negatively related to congruent development for boys, but positively related to English language skills and unrelated to achievement For girls, parental involvement showed a positive significant relationship with achievement, English skills, and academic aspirations, but not with cognitive development. Control and monitoring showed no relationship with any of the variables for girls
Kalaycı and Öz (2015)	Turkey; local citizens/majority group members	Mixed	<1000	Primary school	Parents	Dependent	Home-based and school-based	Parents	Mothers visit the teacher more often if the child is having difficulty with homework or if they want to discuss teaching strategies at home and at school, but fathers are more likely to be involved in other tasks (e.g. paying bills, reading) while the child is studying
Kaplan (2013)	Israel; local citizens/majority group members	Quantitative	<1000	Primary school	Students	Independent	Home-based and school-based	Students	Parental school volunteering significantly explains boys' self-evaluation and academic performance, home-based involvement has a positive effect for both boys and girls, but school-based involvement has a negative effect for boys

TABLE A1 (Continued)

Short citation	Country/region; ethnicity/citizenship status of participants	Method	Sample size	Level of education examined	Role of participants	Involvement/engagement as a dependent/independent variable	Form of involvement examined	Which gender's effect is examined	Main findings
Kazeem et al. (2010)	Nigeria; local citizens/majority group members	Quantitative	1000–10,000	Primary and secondary school	Students	Independent	Parental attitudes	Students	Children of parents who believe that boys' education is more important than girls' are 45% more likely to be at risk of dropping out
Leath et al. (2020)	USA; black minority students	Qualitative	Small sample	Primary school	Parents	–	Special; critical and conventional forms of involvement	Students	Critical forms of maternal involvement were more frequent and intensive in the case of boys
Marshall and Jackman (2015)	Barbados; local citizens/majority group members	Quantitative, longitudinal	<1000	Primary and secondary school	Students	Dependent and independent	Home-based	Students	Parental involvement is significantly higher for girls than for boys
Mencarini et al. (2019)	Italy; local citizens/majority group members	Quantitative	<10,000	Primary and secondary school	Parents	Independent	Home-based	Parents and students	Male children spend less time reading, especially if they are being raised by a single mother, and the same can be said of the effort they put into learning. Children of single mothers spend less time studying, and the disadvantage for boys is greatest in single-parent family structures. If the single mother works and is financially disadvantaged, the gender gap widens
Moon and Hofferth (2016)	USA; immigrant families	Quantitative, longitudinal	1000–10,000	Preschool and primary school	Students	Independent	Home-based	Students	Parental involvement did not explain girls' achievement in reading comprehension and mathematics, but it did for boys. The positive effect of growing up in a two-parent family on boys' preschool achievement in reading comprehension and mathematics was larger than for girls
Muller (1998)	USA; local citizens/minority group members	Quantitative, longitudinal	>10,000	Primary and secondary school	Students	Independent	Parental support, home-based	Parents and students	Girls talk significantly more about school matters with their parents than boys. Mothers talk to daughters more often and fathers talk to sons more about school. Girls' extracurricular activities are more restricted and boys are more often disciplined. Greater parental involvement has a positive effect on girls' school performance, but a mostly negative effect on boys'

(Continues)

TABLE A1 (Continued)

Short citation	Country/region; ethnicity/citizenship status of participants	Method	Sample size	Level of education examined	Role of participants	Involvement/engagement as a dependent/independent variable	Form of involvement examined	Which gender's effect is examined	Main findings
Muyini (2023)	Saudi Arabia; local citizens/majority group members	Qualitative	Small sample	Primary and secondary school	Teachers	–	School-based	Teachers	Male teachers in Saudi Arabia expect parents to take a passive role and prefer one-way communication with parents, while female teachers are more supportive and work more closely with parents
Otani (2020)	Japan; local citizens/majority group members	Quantitative	1000–10,000	Primary school	Students	Dependent and independent	Home-based	Students	Parental monitoring is negatively related to boys' maths performance and negatively related to girls' maths performance when parents monitor homework completion. Talking to parents has a positive effect on boys' aspirations for further education, but no significant effect on girls' aspirations. Parent monitoring that the child spends enough time on homework has a positive effect on boys' maths and science aspirations, but no significant effect on girls'.
Parmar and Nathans (2022)	India; local citizens/majority group members	Quantitative	<1000	Primary and secondary school	Students	Independent	Home-based	Students	Boys' achievement is determined more by involvement and girls' more by parental warmth, with no such difference for behavioural problems. Girls reported higher levels of parental involvement and warmth
Pendergast et al. (2018)	USA; local citizens/majority group members	Quantitative	>1000	Primary and secondary school	Teachers	Dependent	Parental support, home-based	Students	There were no significant differences in parental support and helping the children with homework by student gender
Pepe and Addimando (2014)	Italy; local citizens/majority group members	Quantitative	<1000	Primary and secondary school	Teachers and parents	Dependent	School-based	Parents	There was no gender difference in parents' counterproductive behaviours

TABLE A1 (Continued)

Short citation	Country/region; ethnicity/citizenship status of participants	Method	Sample size	Level of education examined	Role of participants	Involvement/engagement as a dependent/independent variable	Form of involvement examined	Which gender's effect is examined	Main findings
Rogers et al. (2009)	Canada; local citizens/majority group members	Quantitative	<1000	Primary school	Students	Independent	Parental support, home-based	Parents and students	Both fathers and mothers were more likely to become involved by organising the learning environment for girls and exercising pressure on boys. Maternal involvement showed a positive relationship with all dimensions of children's self-image and educational characteristics, but academic pressure was negatively related to self-image in reading comprehension. Paternal academic pressure was associated with lower academic competence and a worse self-image in reading comprehension and mathematics but paternal support and encouragement were linked with higher scores
Sheng (2012)	China; local citizens/majority group members	Qualitative	Small sample	Secondary school	Parents and students	–	Home-based; parental attitudes	Parents	Typically, the involvement of mothers is much higher: they are directly involved in the child's studies and are responsible for implementing plans with the father on a daily basis. Fathers are more involved in planning, direct involvement is less frequent
Silinskas and Kikas (2019)	Estonia; local citizens/majority group members	Quantitative, longitudinal	<1000	Primary school	Parents and students	Dependent and independent	Parental support, home-based	Students	Boys showed higher perceived parental control, which had a negative effect on persistence in writing homework and mathematical self-efficacy, while girls showed no correlation. For boys, low homework persistence was associated with higher control, whereas for girls, mathematical self-efficacy was a significant predictor of parental control

(Continues)

TABLE A1 (Continued)

Short citation	Country/region; ethnicity/citizenship status of participants	Method	Sample size	Level of education examined	Role of participants	Involvement/engagement as a dependent/independent variable	Form of involvement examined	Which gender's effect is examined	Main findings
Seff et al. (2021)	Democratic Republic of the Congo; local citizens/majority group members	Mixed	<1000	Primary and secondary school	Parents and students	Dependent and independent	Parental attitudes	–	The caregiver's gender-equitable attitude score was found to be associated greater odds of a girl experiencing an improvement in school participation
Stanikzai (2013)	Afghanistan; local citizens/majority group members	Quantitative	>1000	Primary and secondary school	Teachers	Dependent	School-based	Parents and teachers	Fathers' involvement was perceived to be higher by teachers regardless of child gender, while mothers were more likely to play a role in supporting learning at home, fathers' role included communication with the school and participation in school community activities
Suldo et al. (2012)	USA; local citizens/majority group members	Quantitative	<1000	Secondary school	Students	Independent	School-based	Students	Parental involvement only explains internalising and externalising behaviour for girls
Trask-Tate and Cunningham (2010)	USA; Afro-American minority	Quantitative	>1000	Secondary school	Students	Independent	Parental expectations, home-based and school-based	Students	For boys, higher SES is associated with lower aspirations to further education when parental involvement is high, and higher SES is associated with higher aspirations when parental involvement is low. For girls, the relationship is inverted: high SES is associated with high aspirations for higher involvement, while high SES is associated with lower aspirations for low involvement
Unal and Unal (2010)	Turkey; local citizens/majority group members	Mixed	<1000	Primary school	Teachers and parents	Dependent	School-based	Teachers	According to female teachers, fathers feel more uncomfortable talking to them and attend few of their parent-teacher meetings. Father involvement is lower when the child's teacher is female
Mau et al. (2020)	USA and Taiwan; local citizens/majority group members	Quantitative	1000–10,000	Secondary school	Students	Independent	Home-based	Students	There was a significant gender difference in STEM parental involvement in the Taiwan sample, with boys benefiting more, but no such difference in the US sample

TABLE A1 (Continued)

Short citation	Country/region; ethnicity/citizenship status of participants	Method	Sample size	Level of education examined	Role of participants	Involvement/engagement as a dependent/independent variable	Form of involvement examined	Which gender's effect is examined	Main findings
Yuki et al. (2013)	Yemen; local citizens/majority group members	Quantitative, longitudinal	1000 – 10,000	Primary and secondary school	School leaders and parents	Dependent	Parental attitudes, school-based, special: community decision-making	Students, teachers	A program aiming to increase girls' participation in education was more likely to be sustainable when the views of school principals supported gender equality, when a mothers' association was established to support girls' education
Zdzinski (1994)	USA; local citizens/majority group members	Quantitative	<1000	Music education	Students	Independent	Home-based and school-based	Students	Parental involvement showed a stronger correlation with girls' attitudes and motivation to learn music. Boys' performance showed a stronger correlation with parental involvement, while cognitive musical performance was strongly associated with involvement for both genders, again with a stronger association for boys Paternal involvement has a stronger effect on performance, but maternal involvement has a stronger effect on cognitive performance and motivation
Zhang et al. (2007)	China; local citizens/majority group members	Quantitative	1000 – 10,000	Primary school	Parents and students	Independent	Parental attitudes	Students	Mothers' gender attitudes only influence educational aspirations for girls; girls with pro-equality attitudes are more likely to continue their education

TABLE A2 Distribution of the studies by target country.

Country	<i>N</i>	%
USA	8	18.6
USA – ethnic minorities, immigrants	8	18.6
Israel	3	7
China	3	7
UK	2	4.65
Italy	2	4.65
Turkey	2	4.65
Taiwan	1	2.3
Taiwan and USA	1	2.3
Canada	1	2.3
Sudan	1	2.3
Nigeria	1	2.3
Yemen	1	2.3
Barbados	1	2.3
Norway	1	2.3
Japan	1	2.3
Estonia	1	2.3
Afghanistan	1	2.3
New Zealand	1	2.3
Congo	1	2.3
Saudi Arabia	1	2.3
India	1	2.3