

Effects of parental involvement on academic achievement: a meta-synthesis

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The impact of parental involvement on student academic achievement has been recognized by teachers, administrators, and policy-makers who consider parental involvement to be one of the integral parts of new educational reforms and initiatives. This study synthesized the results of nine meta-analyses that examined this impact and it identified generalizable findings across these studies. The results indicated that the relationship between parental involvement and academic achievement was positive, regardless of a definition of parental involvement or measure of achievement. Furthermore, the findings revealed that this relationship was strongest if parental involvement was defined as parental expectations for academic achievement of their children. However, the impact of parental involvement on student academic achievement was weakest if parental involvement was defined as homework assistance. Finally, the relationship between parental involvement and academic achievement was found to be consistent across different grade levels and ethnic groups. However, the strength of that relationship varied based on the type of assessment used to measure student achievement.

Keywords: parental involvement; academic achievement; meta-synthesis; meta-analysis

Introduction

Positive impacts of parental involvement on student academic outcomes have not only been recognized by school administrators and teachers, but also by policy-makers who have interwoven different aspects of parental involvement in new educational initiatives and reforms (Graves and Wright 2011; Larocque, Kleiman, and Darling 2011; Mattingly et al. 2002; Topor et al. 2010). “The idea that parents can change their children’s educational trajectories by engaging with their children’s schooling has inspired a generation of school reform policies” (Domina 2005, 245). The significance of parental involvement was clearly emphasized and delineated in the No Child Left Behind Act (Title I, Part A). More specifically, schools were instructed to engage families in education of their children and encourage the participation of parents in regular, two-way communications involving student academic achievement and various school activities (ED.gov 2013). Due to the pressure from administration applied by partially tying funding of schools to successful parental involvement programs (Gonzales-DeHass, Willems, and Holbein 2005), and adoption of multiple reforms that incorporate parental

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involvement as one of their integral parts, schools across the United States have been working on designing and implementing various parental involvement initiatives in the hope of improving student academic performance.

Basing the development of such initiatives on a strong research foundation is imperative, especially considering the amount of resources dedicated to parental involvement programs across the nation (Domina 2005; Shaver and Walls 1998). However, providing the best empirical evidence for purposes of informing policy or practice is not an easy task. The abundance of research on parental involvement makes it difficult for policy-makers to distinguish between individual studies and objectively select the high-quality research to serve as the basis of their decisions (Andrews and Harlen 2006). The issue of a wide range of research on parental involvement, reflected in different study methodologies, sampling processes, research questions, and findings, can benefit from various research synthesis methods (Andrews and Harlen 2006; Barnett-Paige and Thomas 2009; Suri and Clarke 2009). The qualitative and quantitative research syntheses can effectively “match the existing research to the requirements of policy-makers and practitioners” (Andrews and Harlen 2006, 288), ensuring that the resources are dedicated to the appropriate parental involvement initiatives.

Parental involvement

A lack of consensus regarding parental involvement begins with a definition of the construct, and the fact that “despite its intuitive meaning, the operational use of parental involvement has not been clear and consistent” (Fan and Chen 2001, 3). Definitions vary from inclusive, such as the one given by Grolnick and Slowiaczek (1994, 238) who define parental involvement as “the dedication of resources by the parent to the child within a given domain” and Larocque, Kleiman, and Darling (2011, 116) who state that “family involvement can be generally defined as the parents’ or caregivers’ investment in the education of their children”, to more specific ones that perceive parental involvement as “parents’ behaviors in home and school setting meant to support their children’s educational progress” (El Nokali, Bachman, and Votruba-Drzal 2010, 989). In some studies, however, researchers choose to avoid a general definition of parental involvement and instead they focus on specific types of the involvement exhibited by parents (Kohl, Lengua, and McMahan 2000).

It is believed that the relationship between parental involvement and academic achievement is impacted by various factors. Some of the most prominent, and thus most frequently investigated factors, include ethnicity, prior achievement, and socio-economical status (Kohl, Lengua, and McMahan. 2000). Therefore, research studies that manage to control for the effect of some of these variables, although rare, are valuable and able to provide a more realistic picture of the effect of parental involvement on student achievement. For example, after controlling for child’s ability, socio-economical status, and ethnicity, Zellman and Waterman’s (1998) findings indicated a significant positive correlation between parental in-school involvement and student reading scores. Additionally, after controlling for children’s intelligence, Topor et al. (2010) argued that parental involvement was significantly related to academic performance and children’s perception of cognitive competence. It should be noted that in this particular study parental involvement was measured by teachers’ perceptions of positive attitudes parents might have had toward their children’s education, teachers, and schools. It did not, however, take into account any parental

involvement in school or at home, hence casting a shadow of doubt on validity of the results. Similar concerns were raised regarding Izzo et al.'s (1999) study results that indicated that parental involvement was a significant predictor of student academic achievement. The problem arose when some of the reported significant correlations became non-significant once the previous student performance was controlled. These studies are just a few examples indicating that, as is often the case with complex phenomena, the findings related to parental involvement are frequently full of inconsistencies.

Literature searches using the keywords “parental involvement” and “academic achievement” yield thousands of entries, many of them representing scholarly research of the effects of parental involvement on academic achievement of children at various levels of education. To summarize and yield more generalizable results regarding the relationship between parental involvement and student academic achievement, numerous meta-analyses were conducted over the past two decades. Although the overall goals of these meta-analyses aligned, their findings differed, confirming the need for a systematic research review of these results.

Purpose of the study

The purpose of this study was to synthesize the results of meta-analyses that examined the impact of parental involvement on student academic achievement, and identify any generalizable findings across the meta-analyses regarding the relationship between these two constructs. The following research question was considered:

- (1) What findings regarding the relationship between parental involvement and student academic achievement are supported by the majority of meta-analyses included in the meta-synthesis?
- (2) However, parental involvement is a complex concept that encompasses various components, such as participation in school activities, homework assistance, and academic expectations for children. In addition to multiple definitions of parental involvement, various assessments of academic achievement could also present problems during the synthesis stage of the study that would challenge the usefulness of the findings (Andrews and Harlen 2006). To address these concerns, we considered two subsidiary research questions: Do different definitions of parental involvement contribute to the inconsistencies in the findings of meta-analyses with regard to the impact of parental involvement on student academic achievement?
- (3) Do various measures of academic achievement contribute to the inconsistencies in the findings of meta-analyses with regard to the impact of parental involvement on student academic achievement?

Methodology

In order to address the research questions, we conducted a qualitative research synthesis of studies that focused on the relationship between parental involvement and student academic achievement. The qualitative research synthesis methodology encompasses various approaches to integrate findings from qualitative research evidence (Major and Savin-Badin 2010). One of the earliest and most notable approaches is meta-ethnography, introduced by Noblit and Hare in 1988.

Meta-ethnography synthesizes the findings of linked ethnographies by utilizing a particular method of synthesis, called reciprocal translational analysis (RTA). This method involves translation of concepts from one study into the other, eventually resulting in evolution of findings with greater explanatory power (Barnett-Page and Thomas 2009).

In addition to the early approaches for synthesizing qualitative research, such as meta-ethnography, other methods have since been developed (Major and Savin-Badin 2010; Walsh and Downe 2005). One of these relatively new methods is meta-synthesis. Meta-synthesis is an interpretive, rather than an aggregating method that aims to integrate the findings from qualitative studies that examined the same or closely related topic (Walsh and Downe 2005; Zimmer 2006). Although the term meta-synthesis is generally associated with the analysis of qualitative research, there has also been an expansion of units of analysis for meta-synthesis from only qualitative studies to studies that utilize quantitative research designs (Strobel and van Barneveld 2009). With that in mind, we decided to limit the range of our units of analysis to include only meta-analyses that investigate the relationship between parental involvement and student academic achievement.

The scope of meta-synthesis remains open to interpretation of researchers employing this technique. However, selecting an appropriate scope is crucial, because this process determines the transferability of the findings of the meta-synthesis (Walsh and Downe 2005). In this meta-synthesis, we opted for a broader scope for the analysis. This decision was primarily guided by the fact that the studies investigating parental involvement and its impact on student academic achievement, maintained a broad scope themselves. The differences in definitions of parental involvement, measurements of academic achievement, and student populations examined, were significant in these studies. Therefore, a more precise scope would have risked eliminating some of the findings from the meta-synthesis.

In order to decide what studies should be included in the meta-synthesis, we followed the most commonly adopted approach that allowed for inclusion of studies by different investigators in a related field (Walsh and Downe 2005). The search of major databases, such as Academic Search Complete, Psych Info, Sociological Abstracts, Education Research Complete, and ERIC, using the keywords “parental involvement” and “meta-analysis”, revealed 39 studies. The date of publication remained open for the initial search. However, the intent was to analyze meta-analyses conducted during the past two decades. This resulted in eliminating one paper published in the early 1980s. The initial examination consisted of reviewing abstracts to ensure that the papers indeed reported results of meta-analyses regarding the relationship between parental involvement and academic achievement. Furthermore, in order to ensure that the studies had a sufficient methodological rigor, only studies that were published in peer-reviewed journals were considered. The studies that did not meet these minimum criteria were eliminated from the analysis, resulting in only nine studies.

Among the nine selected studies, four were conducted by one investigator (Jeynes 2003, 2005, 2007, 2012). Although the purpose of including studies by various researchers was to allow for the analysis of multiple perspectives, it was our belief that having four studies performed by a single investigator would not introduce a notable, if any, bias to the synthesized findings. This decision was primarily based on Walsh and Downe’s belief that the synthesis of only one investigator’s findings “acknowledges this central tenet of constructed knowledge”

(2005, 2007). Furthermore, as these four studies spanned over almost a decade and all of them investigated the relationship between parental involvement and student academic achievement, the synthesis of their findings would allow us to view the four studies as a single, longitudinal study (Major and Savin-Badin 2010).

Details on meta-analyses

The process of meta-synthesis begins with examining each unit of analysis (Walsh and Downe 2005), in this case, meta-analyses. The following is the summary of the nine studies selected for the meta-synthesis. Each overview provides a purpose of the meta-analysis, research questions guiding it, definition of parental involvement, measure of academic achievement, and results. It needs to be noted that only those research questions that pertained to the goals of this meta-synthesis were included in the summary.

Fan and Chen's (2001) meta-analysis

The purpose of Fan and Chen's (2001) meta-analysis was to conduct a quantitative synthesis of the literature examining the empirical relationship between parental involvement and student academic achievement. Their focus was on experimental studies that explored the bivariate relationship between parental involvement and academic achievement. Their aim was to determine the strength of the general relationship between the two constructs. While the search of ERIC and PSYCHLIT databases revealed hundreds of papers relevant to their topic of interest, many of them reporting empirical findings, Fan and Chen (2001) selected only 25 studies for their final analysis. These 25 studies were the only ones that included sufficient information needed to obtain Pearson correlation coefficients between the parental involvement indicators and the achievement outcome variables.

The definitions for parental involvement were grouped into several broad dimensions, indicating an inconsistent interpretation of this term in the literature. These dimensions included parent-child communication, home supervision, educational aspirations for children, and school contact and participation. Definitions of academic achievement also varied across the studies. These definitions were grouped into overall grades (such as grade point average), test scores, and grade promotion versus retention.

The results of the meta-analysis indicated that the relationship between parental involvement and academic achievement should not be generalized across different definitions of parental involvement, or different areas of academic achievement. It should, however, be generalized across the different measures of academic achievement. A deeper investigation revealed a stronger relationship between parental involvement and academic achievement if the measure of the latter was more general, such as grade point average or combined grades in several academic areas. The average correlation coefficients were significantly lower if the achievement was measured in specific areas, such as math or reading. Regarding the type of parental involvement, the findings implied that parental aspiration and expectation for educational achievement had a significantly stronger relationship with academic achievement than parents' supervision of children at home (e.g. regulating time spent doing homework and/or watching television, providing home surroundings conducive to studying, and making sure that children come home after school).

Jeynes' (2003) meta-analysis

Jeynes (2003) focused on studies examining the effects of parental involvement on academic achievement of children in K-12 grades. Major social science research databases were searched to reveal 26 studies identified for the inclusion in this meta-analysis. However, only 20 studies had a sufficient amount of quantitative data needed to be included in the study.

The purpose of this meta-analysis was to determine overall effects of parental involvement on academic achievement of minority students. Jeynes (2003) was also interested in the specific components of parental involvement and their individual impact on academic achievement. These components, which seemed to be defining characteristics of parental involvement reported by the examined studies, included parental expectations for the academic success of children, the extent to which parents communicated with their children about school, checking children's homework, attending school functions, and enforcing rules regarding school and leisure activities. Academic achievement was measured by overall grades (grade point average), standardized tests, and teacher rating scales which reflected teacher's evaluation of students' academic behavior and attitudes.

The findings of Jeynes' (2003) meta-analysis indicated that all measured components of parental involvement had a significant positive impact on academic achievement, regardless of the ethnicity of students and type of academic achievement measures. Interestingly, although impacted by parental involvement, grade point average seemed to have the least effect size compared to the other measures of academic achievement. This implied that parental involvement had the greatest impact on the other measures, which mainly consisted of teacher ratings. This may be explained by the belief that teachers' evaluations of students' performance and attitudes may be affected by "teacher perceptions of the level of cooperation exhibited by the child and the family as a whole" (Jeynes 2003, 213).

Jeynes' (2005) meta-analysis

In his later meta-analysis, Jeynes (2005) focused on the effects of parental involvement on urban elementary school children. The following research questions, pertinent to this meta-synthesis, were considered: To what degree is parental involvement associated with higher levels of school achievement among urban students? What aspects of parental involvement help those students the most? Does the relationship between parental involvement and academic achievement hold across race and gender groups? Furthermore, this study investigated the effects of parental involvement across various measures of academic achievement.

The studies included in this meta-analysis were published or unpublished quantitative studies that employed the experimental research design and subsequently reported sufficient statistical information necessary to determine effect sizes. Among more than 5000 identified national and international papers on parental involvement, only 50 studies quantitatively examined the relationship between parental involvement and academic achievement of urban elementary students. Among these 50 studies, 41 met all the required criteria to be included in the meta-analysis.

Academic achievement was measured by grades, standardized tests, teacher rating scales (emphasizing academic behaviors and attitudes), and an overall measure of all components of academic achievement combined. Based on the studies included in his meta-analysis, Jeynes (2005) defined parental involvement as

parental participation in the educational processes and experiences of their children. Parental involvement included general and specific components. These components were defined in individual studies and were distinguished from the following characteristics of parental involvement: communication between parents and children regarding school activities, parental expectations of students' academic achievement, reading regularly with children, attending and participating in school activities, and having supportive and helpful parenting style.

The findings of this meta-analysis indicated a strong relationship between parental involvement and academic achievement among urban students regardless of their gender or ethnicity. Although all aspects of parental involvement were related to academic achievement, parental expectations and parenting style were found to have the strongest impact. Attending school functions, establishing household rules, and checking homework did not necessarily yield the statistically significant effect sizes. The impact of parental involvement on academic achievement was statistically significant regardless of the measure of achievement. This relationship between parental involvement and academic achievement, however, was the weakest when academic achievement was measured by standardized tests. Other relationships, such as the ones between parental involvement and grades, or parental involvement and teacher ratings, were positive and significant.

Erion's (2006) meta-analysis

Erion (2006) focused on specific type of parental involvement: learning activities at home. More specifically, the purpose of this meta-analysis was to determine the impact of parent tutoring on student academic achievement. Although Erion's (2006) interest was not limited to specific disciplines or subject area, all the studies examined in this analysis focused on either math, reading, or spelling. Erion (2006) considered two types of measures of academic achievement: curricular (researcher designed criterion-referenced instruments) and standardized (norm-referenced) tests. The research questions, pertaining to this meta-synthesis, included: What is the general effectiveness of parent tutoring? Is the outcome of parent tutoring related to grade level, skill area, and measure of academic achievement?

The literature included in this meta-analysis consisted of published and unpublished papers, dissertations, and theses that examined the impact of parent tutoring on student academic achievement. Total of 37 studies were selected for inclusion based on the type of parental involvement (parent or family member tutoring children), sample (school age children), research design (single-subject design or group-design with sufficient amount of quantitative information reported), and their language (English). The search of major databases, such as ERIC, PsycINFO, and Dissertation Abstracts Online, suggest that some of the analyzed studies could have been conducted outside of the United States.

The findings indicated that parent tutoring positively affected academic achievement. Furthermore, the results revealed that the impact of parent tutoring on achievement did not vary based on the length of tutoring period or any written instructions or modeling that the parents may have been provided with. The impact did, however, depend on the duration of training sessions some parents participated in prior to providing tutoring to their children. The strong relationship between academic achievement and this specific type of parental involvement was not found to be affected by grade level of children, nor the skill area in which children received

tutoring. Furthermore, the impact of tutoring was evident regardless of the type of assessment used to measure the achievement.

Jeynes' (2007) meta-analysis

Jeynes (2007) reviewed the literature focused on the effects of parental involvement on urban secondary school children's academic achievement. Total of 25 major social science research databases, such as PsycINFO, Dissertation Abstract International, and Wilson Periodicals, were searched for relevant studies. This search resulted in 52 studies that contained sufficient quantitative information needed for meta-analysis. The research questions, pertaining to this meta-synthesis, included: How does parental involvement impact academic achievement among urban students? What aspects of parental involvement help students the most? Does the relationship between parental involvement and academic achievement hold across the racial groups?

Jeynes (2007) defined parental involvement as parental participation in the educational processes and experiences of their children. More specifically, parental involvement consisted of parental expectations of academic achievement, attendance and participation in school activities, communication between parents and children with regard to school activities, checking homework, and parental style. Furthermore, Jeynes (2007) identified general and specific parental involvement, defined by different researchers and distinguished from the components of parental involvement mentioned earlier. For the purpose of the meta-analysis, academic achievement was measured by an overall measure of all components of academic achievement combined, grades, standardized tests, and teacher rating scales (emphasizing student academic behaviors and attitudes).

The results indicated that parental involvement positively impacted academic achievement regardless of ethnicity of children. The component of parental involvement that had the strongest positive relationship with academic achievement was parental expectations. Other parental involvement components had various effects on achievement, depending on the measure of academic outcomes. For example, parental attendance and participation in school activities had no statistically significant impact on overall academic achievement, but they did impact grades and teacher rating scales. Although positively related to student academic achievement, family communications about school and enforcing household rules did not have statistically significant impacts. Finally, Jeynes (2007) demonstrated that parental involvement was a better predictor of achievement at the elementary school level than it was at the secondary school level.

Senechal and Young's (2008) meta-analysis

The goal of Senechal and Young's (2008) meta-analysis was to examine the relationship between parental involvement and the acquisition of literacy from kindergarten to third grade. The acquisition of literacy refers to the early literacy behaviors of children in grades K-3. For the purpose of this meta-analysis, parental involvement was defined as parent-child home activities that were designed to improve children's literacy. More specifically, these included parents reading to their children, parents listening to their children read, and parents completing literacy exercises with their children. Research questions in this meta-analysis included: Will

involving parents in children's literacy acquisition result in better achievement outcomes? What type of parental involvement will improve children's literacy acquisition, if any?

In order to determine a causal relationship between parental involvement and academic achievement, which in this meta-analysis was measured by reading acquisition, only studies that had experimental or quasi-experimental design were included. After the extensive research of major databases, Senechal and Young (2008) selected 13 articles that met the inclusion criteria and were published in peer-review journals. One of these studies was conducted in Australia, one in UK, and the remaining studies were carried out in the United States. Overall results of this meta-analysis indicated that parental involvement positively influenced reading acquisition. However, examining different types of parental involvement produced different findings. In particular, training parents to teach their children to read proved to be more effective than training parents to listen to their children read, although both interventions had a statistically significant impact on achievement. Parents reading to their children, however, did not seem to have an effect on reading acquisition. The impact of parental involvement on academic achievement did not vary with the length of intervention nor was it affected by the existence of supportive feedback provided to parents. Finally, the findings were consistent across the grades, reading level of children, and socio-economic status.

Pattal, Cooper, and Robinson's (2008) meta-analysis

Pattal, Cooper, and Robinson's (2008) focused on studies that examined the relationship between parental involvement in homework and academic achievement. Therefore, for the purpose of their meta-analysis, parental involvement was defined as parents assisting children with homework. Academic achievement was measured by standardized tests, non-standardized achievement tests, class grades, homework grades, homework completion rate, student study habits and skills, student attitudes and parent attitudes toward school, homework, or subject, parent competency beliefs, or student conduct. Pattal, Cooper, and Robinson excluded the studies conducted outside of the United States and Canada, as well as the studies that did not focus on K-12 student population.

The authors examined 14 studies that manipulated parental homework involvement by providing training to parents. The findings indicated a lack of statistically significant effects of parent training for homework involvement on student achievement, regardless of the measure of achievement, subject matter, type or duration of training. The only moderator of this effect was grade level of children, which indicated a stronger effect in earlier grades. Parent training for homework involvement did appear to have a significant positive impact on homework completion rate and frequency of having problems with homework assignments. Interestingly, the findings also revealed poorer attitudes toward homework for students whose parents received training for homework involvement.

Overall, there was a weak and small correlation between parental involvement in homework and academic achievement. One of the provided explanations of this particular finding emphasized a potential bidirectional relationship between the two constructs, with poor achieving students requiring more parental involvement in homework. Furthermore, the correlations between parental involvement in homework and achievement were only present for elementary school students,

indicating that middle school students may not benefit from this type of parental involvement.

Although the overall effects of parental homework involvement on academic achievement were not significant, some of the components of parental involvement in homework did have a strong, positive impact. For example, enforcing rules regarding the homework (when and where it should be done) and providing direct aid to children had strong relationships with academic achievement. However, merely monitoring homework completion had a negative impact on homework completion rates. Finally, regarding the subject matter that parents provided tutoring for, the findings of the meta-analysis indicated positive, although non-significant, effects in verbal subject matter, and revealed contradictory outcomes in mathematics, therefore indicating a need for further research.

Hill and Tyson's (2009) meta-analysis

The purpose of Hill and Tyson's (2009) meta-analysis was to determine the extent to which parental involvement was positively associated with academic achievement in middle school and which types of parental involvement had the strongest impact on achievement. Additionally, the authors examined the differences between African American and European American students with regards to this impact.

In order to be included in the meta-analysis, the studies were required to be empirical reports on the effect of parental involvement on academic achievement of students in middle school. The studies were published from 1985 to 2006, and they had to include reports of effect sizes or sufficient information for calculating effect sizes. They also had to contain specific definitions of parental involvement and academic achievement. A comprehensive review of literature revealed 50 studies that met the criteria for inclusion.

Parental involvement was defined specifically in each study and included communicating with children about school, communicating with school, attending and participating in school activities, involvement at home, parental expectations regarding academic achievement, and parental attitudes toward education. Academic achievement was measured by course grades, grade point averages, test scores, and placement in advanced courses.

Overall, the results of meta-analysis indicated a positive relation between parental involvement and academic achievement in middle school. Academic socialization (which included parents' expectations for children academic achievement, parents fostering academic aspirations in children, discussing learning strategies, and planning for children's academic future) was found to have the most significant impact on achievement during middle school. A weaker, but still significant positive relationship was present between school-based involvement and academic achievement. Additionally, different types of home-based involvement had various effects on achievement. In particular, assisting children with homework did not have a significant impact, but home activities that provided appropriate structure, environment, and material conducive to learning, did have the significant positive effect on academic achievement. Finally, the findings indicated that the relationship between parental involvement and academic achievement was positive for African Americans and European Americans, but was shown to be stronger for European American students.

Jeynes' (2012) meta-analysis

The purpose of Jeynes' (2012) meta-analysis was to investigate if parental involvement programs were effective. Furthermore, the goal was to determine what specific types of parental involvement positively impacted academic achievement. Parental involvement programs were defined as school sponsored initiatives that required or encouraged parental participation. In this meta-analysis, overall parental involvement was defined as parental participation in the educational process and experiences of their children. The specific types of parental involvement were based on the parental involvement programs examined in each study. Parental involvement programs included "shared reading program" (encouraging parents to read with their children), "emphasized partnership program" (designed to help parents and teachers collaborate with one another in attempt to improve children's academic outcomes), "checking homework program", "communication between parents and teachers program", Head Start program, and English as a second language (ESL) teaching program. Academic achievement was measured by standardized assessments (such as standardized test scores) and non-standardized measures (for example, grade point average and teachers rating).

Two research questions were posed in this meta-analysis: Do parental involvement programs positively influence pre-K to 12th grade students? What types of parental involvement programs help students the most? Both published and unpublished quantitative studies that were identified by employing various national and international search engines were considered for this analysis. The studies had to include sufficient information to determine effect sizes. There were 51 studies that met the required criteria and that examined the relationship between parental involvement programs and the academic achievement in pre-K to 12th grade.

Overall, the results indicated that there was a positive relationship between parental involvement programs and the academic success of students. The findings were significant across school grades. The impact of parental involvement programs on academic achievement was stronger when achievement was measured by standardized assessments rather than the non-standardized achievement tests. The relationship between the length of the parental involvement programs and their effectiveness was positive, but not statistically significant. Examining specific parental involvement programs revealed that "shared reading program" was the most effective with regards to academic outcomes. The positive impact was also seen with the "emphasized partnership program". Although the "checking homework program" yielded statistically significant results, these results were the weakest ones of all. The Head Start program and ESL teaching were not found to have statistically significant effect on student academic achievement, although the overall trends were positive.

Analysis

The review of selected studies for a meta-synthesis needs to be followed by an identification of the key concepts and relations in each reviewed study (Walsh and Downe 2005). Often referred to as a "compare and contrast exercise", this step in meta-synthesis provides the first organizational funnel that aims to reveal relationships between the analyzed studies and eventually produce more generalizable findings. The two major constructs examined in this study were parental involvement and academic achievement.

Table 2. Measures of academic achievement included in meta-analyses.

Measures of academic achievement	Studies	Fan and Chen (2001)	Jeynes (2003)	Jeynes (2005)	Erion (2005)	Senechal (2008)	Jeynes (2007)	Pattal et al. (2008)	Hill and Tyson (2009)	Jeynes (20012)
Standardized test scores		+	+	+	+		+	+		+
Grade point average		+	+	+	+		+		+	+
Teacher's ratings		+	+	+	+		+			+
Class grade				+	+		+	+	+	
Curricular-based test scores		+			+			+	+	
Student conduct								+		
Advanced placement									+	
Homework completion rate								+		
Parent and student attitudes toward school										
Reading acquisition						+		+		

Table 3. Categories that emerged from open-coding.

Category Name	Category Description
Parental involvement - academic achievement	Parental involvement has a positive impact on academic achievement.
Home supervision	Parents establishing and enforcing rules regarding school and home/leisure activities has positive impact on academic achievement.
Parental participation	Parents attending and participating in school activities has positive impact on academic achievement.
Parental expectations	Parental expectations for their children's academic achievements have positive impact on academic achievement.
Homework assistance	Parents providing their children with homework assistance has positive impact on academic achievement.
Standardized assessment	The relationship between parental involvement and academic achievement is strongest if achievement is measured by standardized testing.
Measures of achievement	Relationship between parental involvement and academic achievement is generalizable across various measures of achievement.
Subject area	Relationship between parental involvement and academic achievement is generalizable across various subject areas.
Grade level	Relationship between parental involvement and academic achievement is generalizable across grade levels.
Ethnicity	Relationship between parental involvement and academic achievement is generalizable across different ethnic groups.

In general terms, parental involvement may be defined as parental participation in the educational processes and experiences of their children (Jeynes 2007). However, this construct appears to have adopted various definitions based primarily on researchers' understandings of parental involvement and research questions guiding their studies. The most prominent parental involvement components in the analyzed meta-analyses were communication between parents and children regarding school, checking and helping with homework, parental educational expectations and aspirations for their children, and attendance and participation in school activities. As for the measures of academic achievement, they can generally be divided in two broad categories: standardized tests and non-standardized assessments. The most common non-standardized measures included in the meta-analyses were grade point average, class grade, test grade, and teachers' ratings regarding both students' academic performance and their behavior. The detailed representation of how each meta-analysis defined parental involvement and academic achievement can be found in Tables 1 and 2, respectively.

The process of identification of key concepts is followed by a phase of meta-synthesis that involves qualitatively analyzing the findings of each unit of analysis, in this case meta-analysis. The purpose of this phase is to attempt to translate one study findings into another, with a goal of having more refined results emerge (Walsh and Downe 2005). With this intention in mind, the result and discussion sections of each meta-analysis were analyzed using an open-coding approach (Corbin and Strauss 2007). This process revealed 10 categories, given in Table 3, concerning the relationship between parental involvement and academic achievement.

Table 4. Correlation matrix.

Findings of meta-analyses	Studies	Fan and Chen (2001)	Jeynes (2003)	Jeynes (2005)	Erion (2005)	Senechal (2008)	Jeynes (2007)	Pattal et al. (2008)	Hill and Tyson (2009)	Jeynes (20012)
Parental involvement - academic achievement		+	+	+	+	+	+	+	+	+
Home supervision				-			-	+	+	
Parental participation				-			-			
Parental expectations		+		+			+	+	+	
Homework assistance				+				+	+	+
Standardized assessment		-		-						+
Measures of achievement		+	+	+			-			
Subject area		-			+			-		
Grade level		+	+		+					+
Ethnicity		+	+	+			+		+	

The categories were deemed relevant and subsequently included in the correlation matrix, given in Table 4, only if at least two meta-analyses examined the relationship that led to that category. The trends in effect sizes were reported in the correlation matrix as the symbol “+” if the effect size supported the indicated finding, or “-”, if it did not. There was no symbol included if the meta-analysis did not consider a research question corresponding to the indicated finding.

Discussion

Research question 1

There were several findings regarding the relationship between parental involvement and student academic achievement that were supported by the majority of meta-analyses included in this meta-synthesis. In addition to the strong positive relationship between the two constructs regardless of the definition of parental involvement, the findings of this meta-synthesis revealed that this relationship was the strongest if parental involvement was defined as parental expectations for academic achievement of their children. Parental expectations reflect parents’ beliefs and attitudes toward school, teachers, subjects, and education in general. As children are likely to harbor similar attitudes and beliefs as their parents, having high parental expectations appears vital for academic achievement of children.

The findings regarding the impact of parental involvement when it was defined as homework assistance, or at least homework checking, were surprising, especially taking into account that one of the most commonly practiced forms of at-home involvement is homework assistance (Pezdek, Berry, and Renno 2002). The synthesized findings implied that there was no positive relationship between homework assistance and student academic achievement. In some instances, homework assistance was even negatively correlated with student achievement (Hill and Tyson 2009; Jeynes 2005). One of the plausible explanations of these results is that most parents are not trained to teach certain concepts, regardless of their difficulty, or they may not be familiar with appropriate teaching methods. In either case, students are not likely to benefit much from this type of involvement.

The level of homework involvement may also be greatly influenced by children’s need and request to receive the assistance from their parents. It has been noted that even higher involved parents are less likely to become involved in their children’s homework assignments unless they are approached by their child or the child appears to need their help (Zellman and Waterman 1998). It is also likely that students who are struggling academically represent the majority of children requesting parental assistance in homework, which could help explain negative trends between homework involvement and academic achievement. This leads to another possible explanation regarding negative correlations between the two constructs. Lower achieving students who are struggling academically may influence their parents to become more involved in their education (McNeal 2012). This may also contribute to understanding of contradictory results regarding the effects of home supervision on academic achievement. It is conceivable that certain aspects of home supervision, such as setting the rules regarding school and home activities, are prompted by low academic achievement of children.

Furthermore, the results of the meta-synthesis suggested that parental involvement plays a significant role in children’s academic achievement regardless of their

grade level. Exceptions are noted in a couple of meta-analyses that suggested that parental involvement appeared to have a more significant impact at elementary level, than in later grades (Jeynes 2007; Patall, Cooper, and Robinson 2008). Some of the possible rationales for these results include parents having better mastery of subjects in earlier grades and higher chances of affecting still relatively undeveloped study habits and skills (Patall, Cooper, and Robinson 2008). Additionally, entering adolescence, which usually occurs during middle school, is the period when children attempt to become independent from their parents (Gutman and Midgley 2000). Therefore, parental involvement that does not support this aspect of children's development may not be welcomed and it may even result in negative academic outcomes.

Finally, all the studies that examined the effect of ethnicity on the relationship between parental involvement and student academic achievement were consistent in their findings that this relationship is generalizable across race. This is an important finding, because it confirms that parental involvement may significantly contribute to reducing the achievement gap between different ethnic groups (Jeynes 2005). However, while the results of the meta-analyses confirmed the positive impact of parental involvement on achievement regardless of the ethnicity of students, some of these findings indicated that the impact was stronger for certain ethnic groups (Jeynes 2003). The strength of this impact also varied based on the type of parental involvement. This, however, was not the primary focus of these studies. Therefore, additional research may be needed in order to explain the differences in the effects of parental involvement on achievement across various ethnic groups. One of the commonly offered explanations of these differences is based on different ethnic backgrounds having different beliefs regarding parental role in children's education. The variation in the relationships between different components of parental involvement and academic outcomes, and the varying strength of these relationships based on the ethnicity of parents, imply that parental involvement needs to be defined and evaluated while keeping in mind a mixture of cultural and individual characteristics of parents and children in different ethnic groups. "A one-size-fits-all approach to the design of PI [parental involvement] interventions is very likely to fail in diverse densely populated, urban centers" (Fantuzzo, Davis, and Ginsburg 1995, 273).

Research questions 2 and 3

The ancillary research questions in this meta-synthesis were concerned with the impact of multiple definitions of parental involvement and various measures of student scholastic performance on the relationship between parental involvement and academic achievement. The results of the meta-synthesis indicated that this relationship was positive regardless of how parental involvement was defined. Furthermore, the relationship between parental involvement and student academic achievement was found to be consistent across various measures of achievement. The manner of assessing student scholastic performance did not seem to impact the existence of the relationship between parental involvement and academic achievement. It did, however, affect the strength of that relationship. More specifically, the impact of parental involvement on student performance may be significantly stronger if there is a more global measure of the achievement, for example, grade point average, rather than a specific measure, such as a grade on an in-class achievement test. Use of non-conventional measures of academic achievement, such as teachers' ratings of

students' overall academic progress compared with their peers (Englund et al. 2004), or interviews with students, parents, or teachers, may influence the reliability of findings and result in unexpected and less accurate interpretations of this impact (Mattingly et al. 2002).

The synthesized findings were inconclusive with regards to the type of the assessment used in measuring academic achievement. For example, while some studies reported stronger impact of parental involvement on academic achievement when standardized tests were used to assess that achievement, others showed a greater effect if non-standardized measures, such as grade point average or teacher ratings, were employed. The stronger positive relationship favoring standardized tests may be explained by their nature. The material coverage on standardized tests is more extensive than on the in-class, curriculum-based tests. Involved parents may provide broader academic information that is more likely to appear on standardized, rather than on non-standardized measures (Jeynes 2003). However, the trends concerning a stronger relationship between parental involvement and academic achievement as measured by non-standardized assessments, such as grades, grade point average, and teacher ratings, can be rationalized by the belief that involved parents are inclined to focus on the classroom based assignments, and their involvement may influence teachers' perceptions, and to some extent, even grading of their child (Jeynes 2005).

A lack of consistency in findings was also evident when parental involvement was defined by home supervision, which for the most part consisted of establishing and enforcing the rules regarding school and home activities, and providing opportunities and environment conducive to learning. While some studies acknowledged a moderate impact of this type of parental involvement on academic achievement (Hill and Tyson 2009; Patall, Cooper, and Robinson 2008), few others found no significant effect (Jeynes 2005, 2007).

How subject area affects the relationship between parental involvement and student academic achievement is still underexplored, and the existing findings seem contradictory. In particular, some results concerning the impact of parental involvement on achievement appear to be generalizable across the subject area (Erion 2006), while the others suggest that the strength of that impact vary for various disciplines (Fan and Chen 2001; Patall, Cooper, and Robinson 2008). However, the comparisons of these findings may not be completely valid, as multiple definitions of parental involvement and measures of academic achievement may be moderating the relationship between the two constructs.

Future work

While the findings of this meta-synthesis confirmed the significant role of parental involvement in children's academic achievement, there are still certain questions that may require deeper inquiry. The impact of parental involvement seems to hold across the various measures of academic achievement, but how the strength of that impact varies based on the assessment type remains unclear. There are plausible rationales for promoting both standardized and non-standardized measures in order to more effectively capture the impact of parental involvement on academic achievement, but there is still no sufficient evidence that confirms that one type of measure is more appropriate than the other.

Some components of parental involvement, such as home supervision or attending school activities, are relatively independent of any subject area. With that in mind, the contradictory results of just how big moderating effect subject area has on the relationship between parental involvement and achievement may not be that concerning. However, different types of parental involvement, such as parental expectations, may be closely tied with the subject area. Additional research exploring the effect of various disciplines on the impact of different components of parental involvement on academic achievement is needed.

Finally, a surprising, but often seen, lack of positive impact of homework involvement on children's academic outcomes warrants additional research. The purpose of this research is not to confirm or refute these findings. We are at the point where we have to accept the nature of the relationship between homework assistance and student academic performance. Providing an explanation of this relationship, however, needs to be based, not only on our beliefs and experiences as teachers or parents, but also on the empirically sound findings. Considering that the most commonly practiced form of parental involvement is homework assistance, it is imperative to conduct both quantitative and qualitative studies with intention of determining how this particular type of parental involvement can lead to improvement in academic performance of children.

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