Parent Involvement and Family-School Partnerships:

A Meta-Analysis Across Language Arts Achievement Outcomes

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Abstract

Parent involvement and family-school partnerships have been shown to lead to positive effects on children’s academic achievement. A meta-analysis was conducted to synthesize the empirical literature on parent involvement and family-school partnership interventions across children’s language arts achievement outcomes. Using a multivariate regression model, 168 effect sizes within 45 studies published from 2001-2011 were included in the study from reference database searches, along with hand searches of journals and cited references. Type of intervention approach, type of community, socioeconomic status, child gender, and child age were assessed across two language arts achievement criteria of test scores and competence scores. Results failed to indicate a significant overall model fit; however, significant bivariate relations exist amongst each of the two outcome criteria with child age. Implications for educational practice and policy are presented.
Parent Involvement and Family-School Partnerships: A Meta-Analysis Across Language Arts Achievement Outcomes

Education researchers have long been interested in factors that influence child academic outcomes (Christenson & Sheridan, 2001). Unequivocally, children benefit academically and socially when families are engaged in their education. Parents, teachers, education policy, and students themselves are particularly interested in factors that result in positive child academic outcomes to progress education as a whole. One such factor that is recurrent in the literature is parent involvement (Grolnick & Slowiaczek, 1994; Reynolds, 2000). The perception that parental involvement leads to increased child academic success has resulted in an extant body of literature on the utility of parent involvement in the educational process of a child (Fan & Chen, 2001). Another factor that appears in the literature influencing positive child academic outcomes is family-school partnerships; however, compared to parental involvement approaches to increasing child academic achievement, family-school partnerships do not appear in the literature until recently (Christenson & Sheridan, 2001). The purpose of this paper then is to synthesize the research on parent involvement and family-school partnership interventions across language arts achievement outcomes.

Parent involvement is often the first source to improving a child’s academic success because individual attention can be afforded to each child and children typically spend the most one-on-one time with a primary caregiver (i.e., parent) (Sui-Chu & Willms, 1996). Although the appeal of parent involvement as a mechanism to increase child academic success is still strong (Hill & Tyson, 2009), there remains lack of a consistent theoretical framework for what type of parent involvement as well as how and why parents become involved.
Epstein (2001) took the initiative to develop a theoretical framework for different types of parental involvement in schools. Six classifications for parent involvement in schools were formed: 1) assisting parents in child-rearing skills, 2) school-parent communication, 3) involving parents in school volunteer opportunities, 4) involving parents in home-based learning, 5) involving parents in school decision-making, and 6) involving parents in school-community collaboration. Soon after the development of Epstein’s theoretical framework, several different frameworks emerged (Mattingly, Prislin, McKenzie, Rodriguez, & Kayzar, 2002). Hoover-Dempsey and Sander (1995) were interested in why parents become involved. They developed a theoretical causal model of parent involvement decisions. They claimed parent involvement decisions are characterized by parents’ construction of the parental role, parents’ sense of self-efficacy for helping children succeed in school, and general opportunities and demands for parental involvement. There still remains a need to empirically assess the synthesized literature of how and why parents become involved. This popularity of parent involvement in the educational process led to several inconsistent types and definitions of parental involvement, therefore meta-analyses were needed to succinctly and quantitatively summarize the literature on parent involvement.

Family-school partnerships are another mechanism through which positive child academic achievement outcomes are facilitated (Christenson & Sheridan, 2001). Family-school relations have been described as a safety net to promote children’s learning and academic success (Shirvani, 2007). The literature on family-school partnerships points to inconsistencies in its use and definition, similar to parental involvement approaches to increase child academic achievement (Bracey, 1996; Christenson & Sheridan, 2001). For example, family-school
partnerships have been classified as one-way phone calls between parents and teachers, parent-teacher conferences, and parent-teacher collaboration (Epstein, 2001; Shirvani, 2007).

With an ever-growing body of literature on inconsistent types of parent involvement and family-school partnerships, it became necessary for researchers to conduct meta-analyses to formally synthesize the literature (Orwin & Vevea, 2009). Fan and Chen (2001) conducted a meta-analysis to summarize the quantitative literature on parent involvement and child academic achievement. Specifically, they were interested in potential study features that have moderating effects on the relationship between parent involvement and child academic achievement. Two databases were accessed using 4 search terms to assess parent involvement on academic success. The authors coded parent involvement into 13 different indicator variables ranging from “time spent doing homework” to “values academic achievement” to “parents attend school functions”. They also coded academic achievement into 3 general categories with specific subcategories: grades (further classified into math, reading, science, social studies, or overall), test score (math, reading, science, social studies, or music), and grade promotion and retention. They found a small to moderate relationship between parental involvement and child academic achievement, and concluded there is still a great deal of inconsistency in the empirical literature on parent involvement and academic achievement.

Several studies on parental involvement and academic achievement assessed language arts achievement outcomes in order to attempt to alleviate some of the inconsistencies in child academic achievement indicators. A single-case design study conducted by Taverne and Sheridan (1995) assessed parent involvement on child language arts achievement in the form of paired book reading. Participants were tested using the Peabody Picture Vocabulary Test as a measure of language arts achievement. They concluded parent involvement increased paired
book reading. Another study examined parent involvement as measured by interactive homework with children, and found that those in the experimental (i.e., interactive homework) condition made more correct inferences about the reading material than those in the control group (Bailey, 2006).

Other studies on parent involvement and language arts achievement have identified covariates that may further influence the relationship parent involvement has an child academic success (Barnard, 2004; Sirin, 2005). Hill and Tyson (2009) conducted a meta-analysis on parent involvement in 6th-8th grades on academic achievement using grade point average as a proxy for achievement. The authors retrieved articles from 1985-2006 from 4 databases as well as hand searches of journals using 10 search terms. They included ethnicity, socioeconomic status, and gender as covariates, and found that parent involvement was significantly positively associated with child academic achievement over and above the covariates in the model.

Jeynes (2003; 2005; 2007; 2012) has conducted several meta-analyses on parent involvement and child standardized and unstandardized measures of language arts achievement, including various covariates. The author included socioeconomic status, ethnicity, gender, and urbanicity to control for the effects of different parent involvement interventions on child language arts achievement outcomes (i.e., language arts homework grades). Comparing different parent involvement interventions allowed the author to conclude the effect of various interventions on child outcomes. Future research should attempt to combine the effects of parental involvement interventions and family-school partnership interventions on child academic outcomes. This author also found a considerable and consistent relationship between parent involvement and academic achievement among urban students, and then same relation holds when examined across gender and ethnicity (Jeynes, 2005; 2007).
Few studies have linked family-school partnership interventions to child outcomes (Christenson & Sheridan, 2001). Shirvani (2007) conducted a study conceptualizing a family-school partnership as a progress report between parents and teachers every 3 weeks. The author used a survey as a math achievement outcome, and results indicated student math achievement increased, parent attitudes were more positive toward success, and student conduct problems decreased. More family-school partnership intervention studies are needed to fully capture the relation of child language arts achievement on family-school partnerships.

There is also a paucity in the literature of consistent indicators of child academic achievement (e.g., grades, test scores, and retention; Fan & Chen, 2001; Hill & Tyson, 2009). Thus, a meta-analysis is needed to synthesize the empirical literature on parent involvement and family-school partnerships across child academic achievement outcomes. Moreover, no such study has assessed the combined influence of parent involvement and family-school partnership interventions on indicators of child academic achievement. The purpose of the current study is to examine the effects of child language arts achievement outcomes on parent involvement and family-school partnerships. Specifically, this study will compare type of intervention approach (i.e., parent involvement or family-school partnership) across 2 language arts achievement criteria: test scores and competence scores. No single study has assessed the combined effects of parent involvement and family-school partnerships across multiple criteria. The research hypothesis is that type of intervention approach will influence child language arts achievement outcomes. The following research question will be explored:

1. Does the relationship of child language arts achievement outcomes on type of intervention approach hold across different criteria of language arts?
Methods

Sample

Studies focused on parent involvement and family-school partnership interventions that assessed language arts achievement outcomes on children birth through age 18 (or through grade 12) were selected using 4 reference databases: PsychInfo, ERIC, Dissertation Abstracts International, and Sociological Abstracts, along with hand searches of journals and cited references. A total of 168 effect sizes from 45 different articles met criteria for inclusion.

Selection Procedures

Studies dating from 2001-2011 on parent involvement and family-school partnership interventions assessing child language arts achievement outcomes were collected to build off Fan and Chen’s (2001) hallmark meta-analysis. 40 different search parameter combinations (e.g., “parent,” “partnership,” “collaboration,” “famil,” “parent & involvement”, “school & engagement,” etc.) were used to identify the relevant literature. Nearly 14,000 abstracts were yielded from the search parameters and were coded by 5 trained graduate assistants and the principle investigator who also received training and served as the “gold standard” when there were coding discrepancies. Studies that met the following criteria for inclusion were retrieved: 1) investigated parent involvement or family-school partnership interventions (see Table 1) among children in grade 12 or younger; and 2) presented outcomes for children, parents, teachers, schools, communities, or partnerships. Of retrieved studies, the current study uses a preliminary subsample that assessed language arts achievement outcomes (see Table 2) during childhood (i.e., birth through age 18).
Coding Procedures

Once articles were retrieved, the six trained individuals coded the studies, with 15% of the studies coded by two or more coders. Weekly meetings were held to address inter-rater reliability concerns including questions that arose from the coding process, discrepancies, and consensus among coders.

Data Analysis

A multivariate regression model assessed the amount of variability in language arts achievement outcomes accounted for by type of intervention approach (parent involvement or family-school partnership), type of community (rural or suburban), socioeconomic status (low or high), gender (percent of female child participants per study), and age (mean child age per study). Analyses were conducted as a single-level analysis in SPSS using the Huber-White method to adjust standard errors for complex sampling (Setodji, Le, & Schaack, 2013). Measures of Cohen’s D and known variances were calculated for each outcome (Cooper, Hedges, & Valentine, 2009), taking into account reverse scored outcomes ($N = 168$). Outcomes were removed if they did not provide enough information to determine an effect size. Studies with a control group of $N = 0$ were also removed from the current study.

Results

In order to assess whether the relationship of child language arts achievement outcomes on type of intervention approach holds across two different criteria, separate regression analyses were run using type of intervention approach, type of community, socioeconomic status, gender, and age to predict the two criterion variables language arts achievement test scores and language arts achievement competence scores. Table 3 shows the correlations with each variable with
respective criterion variables and the multiple regression weights for the models of the two criterion variables.

The test scores model had an $R^2=0.171$, $F(5,40)=1.646$, $p=0.170$, without any predictors having significant multiple regression weights, although socioeconomic status, gender, and age all had significant negative bivariate relations with the criterion. The competence scores model had an $R^2=0.228$, $F(4,5)=0.369$, $p=0.822$, without any predictors having a significant multiple regression weight again, although age had a significant correlation with the criterion.

A comparison of the structure of the models for the two criterion variables was also conducted by applying the model derived from test scores to competence scores and comparing the resulting “crossed” $R^2$ with the “direct” $R^2$ originally obtained for this criterion. The direct $R^2=0.408$ and crossed $R^2=-0.153$ were significantly different, $Z=2.311$, $p=0.021$, which indicates that the apparent differential structure of the regression weights derived for the two criteria described above warrants further interpretation and investigation. However, further analyses failed to reveal any further significant regression weights between the two criteria ($Z = 0.763$, $p = 0.445$; $Z = 0.998$, $p = 0.618$; $Z = 0.877$, $p = 0.380$; and $Z = 2.300$, $p = 0.221$); the frequent and random patterns of missing data need to be accounted for in order to make a complete and correct inference of the data.

**Discussion**

Few family engagement studies have explored key language arts achievement outcomes, and the current study is the first of its kind to compare preliminary effects of intervention approaches across studies. Establishing family-school engagement practices during childhood may strengthen children’s academic achievement and prepare parents to develop valuable and constructive partnerships with their children’s care providers (Bobbett, French, Achilles, &
Bobbett, 1995; Christenson & Sheridan, 2001). Previous explorations of family engagement have failed to distinguish what parents do (i.e., *parent involvement models* focused on structured activities) from how families and schools co-operate to support healthy development (i.e., *partnership models* focused on relationships; see Table 1). Contrary to the research hypothesis, type of intervention approach did not have a significant bivariate relationship with language arts achievement outcomes, nor did it have a multiple regression relationship with all the other predictors included in the model.

**Limitations and Future Directions**

Unexpectedly, there was not a significant effect for type of intervention approach. This could be due to the small sample size of family-school partnership intervention studies which limits the ability to infer whether these results reflect a true effect on language arts achievement outcomes. It is also possible that many benefits of a relationship-based approach are not immediately impacted by interventions. Language arts achievement outcomes assessed in family-school partnership and parent involvement interventions may be inherently different, but limited family-school partnership interventions make it difficult to explore these potential differences.

These results are further limited to a preliminary subsample of a much larger meta-analytic data set. Upon completion of coding, future analyses will provide more comprehensive findings. Data regarding inter-rater reliability are also unavailable at this time. Moreover, significant effects may not have been found due to the colinearity of the type of community and socioeconomic status predictors.

Other areas of academic achievement outcomes were not assessed in the current study (e.g., mathematics, science, and social studies). Future studies could compare the effects of
family engagement interventions on other differential multivariate outcomes to get a sense of the entire relationship between intervention approaches and child academic achievement outcomes. Due to differing intervention components within both parent involvement and family school partnership approaches, future explorations can focus on specific strategies that are used within both intervention approaches.

Furthermore, future studies can analyze the effects of achievement outcomes on intervention approach by taking into account the hierarchical nature of the data (Hendricks Brown, Wang, & Sandler, 2008). Failing to account for the hierarchical nesting of data can lead to incorrect inferences (Allen, Chen, Willson, & Hughes, 2009). The present study used the Huber-White method to account for complex sampling designs; however, this single-level model should be compared to one in which the nesting is accounted for.

Conclusion

As the appeal of parent involvement in the education process of children remains strong today, children need support from those most often involved in their life. Although the present did not find an overall effect on child language arts achievement outcomes, future research is still warranted that includes full sample sizes and advanced statistical modeling to account for the complexity of the data. There are also educational policy and practice implications that can be explored for assessing whether type of intervention approach accounts for a significant amount of the variability in child language arts achievement test scores or competence scores such as whether or not to intervene.
Acknowledgement

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References


<table>
<thead>
<tr>
<th>Description of intervention approaches</th>
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<tbody>
<tr>
<td>Parental involvement</td>
</tr>
<tr>
<td>Family-school partnership</td>
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</table>
Table 2  
*Language arts achievement outcome descriptions*  

<table>
<thead>
<tr>
<th>Test scores</th>
<th>Measures assessing language arts test scores (e.g., AIMSweb, CBM)</th>
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<tbody>
<tr>
<td>Academic competence</td>
<td>Measures of language arts academic competence (e.g., for measures of academic outcomes (excluding grades and test scores) such as parental, teacher, or observer ratings of academic functioning. NOTE: children’s ratings of their own competence should be coded in Motivation (e.g., perceived competence)</td>
</tr>
</tbody>
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Table 3
Correlations and multiple regression weights from criteria language arts test score and language arts competence score

<table>
<thead>
<tr>
<th>Variable</th>
<th>Language arts test score</th>
<th>Language arts competence score</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>$r$</td>
<td>$b$</td>
</tr>
<tr>
<td>Intervention approach $^\wedge$</td>
<td>.006</td>
<td>-.554</td>
</tr>
<tr>
<td>Community $^{^\wedge^\wedge}$</td>
<td>-.052</td>
<td>-.127</td>
</tr>
<tr>
<td>SES $^{^\wedge^\wedge^\wedge}$</td>
<td>-.209$^*$</td>
<td>-.521</td>
</tr>
<tr>
<td>Gender</td>
<td>-.299**</td>
<td>-.031</td>
</tr>
<tr>
<td>Age</td>
<td>-.284**</td>
<td>-.006</td>
</tr>
</tbody>
</table>

*$p<0.05$  **$p<0.01$  ***$p<0.001$

$^\wedge$ coded as 1=Parent Involvement and 2=Family-School Partnership

$^{^\wedge^\wedge}$ coded as 1=Urban and 2=Suburban

$^{^\wedge^\wedge^\wedge}$ coded as 1=Low and 2=High

$^a$. Type of intervention approach was excluded due to too small of a small size for family-school partnership interventions.