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A Home Literacy Intervention To Improve Student Reading and Parental Self-Efficacy

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A HOME LITERACY INTERVENTION TO IMPROVE STUDENT READING AND PARENTAL SELF-EFFICACY

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Abstract

Parental involvement is an important factor in student academic achievement. Parental involvement is strongly influenced by parental self-efficacy, a parent's feeling that they can successfully help their child succeed. Parents with high self-efficacy are more involved; if parental self-efficacy can be increased, involvement should increase. Parent involvement has been shown to be most effective academically when tied to a specific intervention in a targeted academic skill, such as reading. It was hypothesized that teaching parents how to conduct simple literacy tutorial sessions at home would lead to an increase in both student reading scores and parental feelings of self-efficacy. An intervention was conducted with students in grades 1-2 to test this hypothesis. Results were mixed; groups showed positive changes in self-efficacy, mixed results with reading score changes, and no correlation between the two effects. Further research is needed with larger sample sizes to expand upon these results.

Chapter 1- Review of the Literature

Parent Involvement

The link between parental involvement and school success has been well established in the literature; both longitudinal and cross-sectional studies have consistently shown a correlation between increased parental involvement in the educational process and academic success in children from pre-school through adolescence (Hill & Taylor, 2004). Parent involvement is also legally important; recent legislation mandates the involvement of parents in the educational process (Cox, 2005). A prime factor that influences parent involvement is the sense of parental self-efficacy- a parent's belief that they are able to parent effectively (Machida, Taylor, & Kim, 2002). High levels of parental self-efficacy have been linked to increased involvement in children's classrooms (Hoover-Dempsey, Bassler, & Brissie, 1992). The personal sense of self-efficacy is malleable. It can be changed in a variety of ways, including through experiences of mastering a task, through comparative social experiences, and through social experiences involving persuasion (Bandura, 1986). Changes in feelings of parental self-efficacy have been linked to expressed willingness to make behavioral parenting changes, to participation in interventions, and to the development of collaborative relationships with professionals (Spoth, Redmond, Haggerty, & Ward, 1995).

Parental self-efficacy and educational involvement

A number of factors can prevent parents from becoming involved, and some of these barriers, such as a lack of socio-economic resources (Grolnick, Benjet, Kurowski & Apostoleris, 1997), are not easily altered. The individual factor of parental self-efficacy, however, can be changed, and improved parental self-efficacy can potentially have

positive consequences for the academic success of children. If feelings of parental self-efficacy improve, parent involvement would be expected to increase.

Parental self-efficacy is thought to influence involvement in the educational process in three ways. First, parents who believe their efforts have an effect on their children's education are more likely to be involved. Second, parents who are high in self-efficacy have a more active view of the role they play in the educational process. Finally, the goal setting and persistence associated with high levels of parental self-efficacy influences parents' feelings about what they should do to be involved, as well as their commitment to this involvement in less than optimal conditions (Walker, Wilkins, Dallaire, Sandler, & Hoover-Dempsey, 2005). A focus of research over the past two decades has been to identify and operationalize a method for understanding and measuring parental self-efficacy as it relates to educational involvement. A promising model was developed by Hoover-Dempsey and Sandler beginning in 1995, and is the subject of ongoing research verification and interest.

Hoover-Dempsey and Sandler's Theoretical Model of Parent Involvement

Hoover-Dempsey and Sandler's (1995, 1997) (Hoover-Dempsey et al., 2005) theoretical model of the parent involvement process addresses three core questions about parental involvement: why do parents become involved, what kinds of involvement do they participate in, and how does their involvement affect students. It has been shown to be a reliable and valid model in a number of studies (Walker, Shenker, & Hoover-Dempsey, 2010). It utilizes a number of scales of parental beliefs and involvement, including the Parent Perception of Parent Efficacy Scale, which will be the focus here. It is worth noting that while parental self-efficacy was a single factor in the initial model, in

the revised Hoover-Dempsey and Sandler theoretical model of parent involvement, the factors of parental self-efficacy and parent role construction have been combined into the factor of parents' motivational beliefs, as both have been shown to be significant contributors to parental involvement (Walker et al., 2005). For the purpose of this study, however, parental self-efficacy will be treated separately, as it is hypothesized to be a more malleable factor and thus is the target of this intervention.

The Parent Perception of Parent Efficacy Scale

The parent perception of parent efficacy scale was developed as a Likert scale to assess feelings of parental efficacy in the educational process. It includes statements such as 'I know how to help my child do well in school' and 'I feel successful about my efforts to help my child learn'. It has been empirically tested in a number of studies, and the initial validity and reliability of the instrument appear to be good (Hoover-Dempsey et al., 1992). Studies of the model have shown that feelings of parental efficacy increase involvement, and increased involvement increases feelings of parental efficacy, which then further increases involvement (Hoover-Dempsey et al., 1992). These self-efficacy beliefs not only can motivate parents to become involved; they can help them to remain involved. It has been shown that stronger feelings of parental efficacy are associated with increased persistence in involvement activities (Hoover-Dempsey et al., 2001).

Studies Linking Parental Self-Efficacy and Parent Involvement

A number of studies have used the parental perception of parent efficacy scale to measure parental feelings of efficacy and involvement in the educational process. Higher feelings of parental efficacy were positively correlated with increased participation in educational activities. Scores of parental efficacy did not vary significantly based on

measures of gender, marital status, employment status, or family income, but did vary slightly based on parent level of education (Hoover-Dempsey et al., 1992).

Parental self-efficacy has been shown to predict parent involvement in home and school based educational activities; a regression analysis of a study of 853 parents of elementary and middle school students found that parental self-efficacy predicted a significant amount of the variance in levels of parental involvement both in home and school involvement ($\beta = .20$, $p < .001$ for home involvement, $\beta = -.08$, $p < .001$ for school involvement) (Green, Walker, Hoover-Dempsey, & Sandler, 2007). The role of self-efficacy in parent involvement was maintained when statistically adjusted for parent income and education levels (Green et al., 2007). In another study, parent efficacy was shown to be a significant predicting factor in involvement in educational activities both at home and at school with students in the 7th-9th grades (Deslandes and Bertrand, 2005).

A regression analysis in another study found that motivational beliefs including parent self-efficacy accounted for 33 % of the variance in parents' involvement in home-based educational activities, and 19 % of the variance in school-based educational activities (Walker et al., 2005). High levels of parental self-efficacy are also associated with more frequent involvement in home learning activities with preschool-age children compared to parents with lower levels of parental self-efficacy (Machida et al., 2002).

Participation in a home-learning program was shown to increase levels of parental self-efficacy. Parents who took part in a 12-week home learning program with their first grade children showed increased scores on the Parent Perception of Parent Efficacy Scale, and also had increased participation in home-learning activities as compared to the control group of parents (Morrison, 2010). A small yet significant relationship between

parental self-efficacy and parental involvement was reported in a study of parents of children with learning disabilities that also utilized the Parent Perception of Parent Efficacy Scale (Good, 2010). Parental self-efficacy beliefs have been shown to be important in studies examining parent participation among Latino immigrant parents; 26 % of the variance in levels of home-based educational involvement was explained by parental feelings of self-efficacy (Maríñez-Lora & Quintana, 2009).

Research in the studies featured here has clearly established a link between parental feelings of self-efficacy and involvement in the educational process of their children. This information, combined with the modifiable nature of self-efficacy beliefs, makes parent feelings of self-efficacy an ideal target for a home intervention to increase parental involvement through increasing perceived self-efficacy.

Home-School Collaborative Interventions

Home-school collaboration has been defined as the process of parents and school staff working together to promote positive academic outcomes for children (Cox, 2005). There are many types of home-school interventions, and determining what interventions are effective is a challenge (Carlson & Christenson, 2005). The most successful interventions treat parents as equals, which allows them to feel comfortable participating in the intervention process (Cox 2005). This is consistent with the established research literature, which shows that parent perceptions of teacher invitations to involvement are a significant predictor of parental involvement (i.e. Walker et al., 2010). Reviews of the home-school collaboration literature have shown that there are many types of home-school collaborative interventions, that most showed generally positive outcomes, and that most involved parent-training components (Bates & Carlson, 2005; Cox, 2005).

Parent led home academic interventions. A review of parent involvement studies between 1980 and 2002 found that the most effective interventions involving parents used structured parent home tutoring of a single academic skill as their main component (Fishel & Ramirez, 2005). As mentioned above, parent training has been shown to be a key part of parent home tutoring interventions: a review of parent-led home literacy interventions found that interventions with a parent training component were more successful than interventions that did not utilize parent training (Toomey, 1993).

Parent led literacy interventions. Literacy and reading skills, due to their central role in all academic achievement, are a frequent target for interventions both in school and at home. Parent home tutoring in specific literacy skills has been shown to be effective at improving the reading scores of elementary aged children in American public schools (Fishel & Ramirez, 2005). Some studies have shown that home-based reading tutoring can be as effective as classroom interventions (Sylva, Scott, Totsike, Ereky-Stevens & Crook, 2008). Parent intervention has been shown to have a positive effect on children's reading acquisition, and training parents to do specific targeted reading skill exercises with their children has been shown to be two times more effective than parents listening to their children read, and six times more effective than parents reading to their children (Senechal & Young, 2008). This effect was found across a meta-analytic review of 14 parent reading intervention studies, and results were not altered by providing support and feedback to parents during the course of an intervention, or by the length of the intervention. The effectiveness of interventions was also consistent across grades K-3, and did not vary based on reading level of the students; both struggling readers and

students reading at grade level improved with structured parent tutoring (Senechal & Young, 2008). The type of training and information given to parents does matter, however; training parents in simple and specific reading tutoring techniques was more effective than providing parents with general information about reading (Toomey, 1993).

The Present Study

Since parent involvement is key to student academic achievement, and parental self-efficacy moderates parent involvement, an intervention to increase parental self-efficacy should increase achievement. Self-efficacy can be improved by giving parents the skills and knowledge they need to effectively help their child. Since parent tutoring in specific literacy skills has been shown to have a strong effect on student reading scores, training parents to do simple and brief home reading exercises with their children could be an ideal way to combine improving student reading scores with improving parental self-efficacy and involvement. This study hypothesized that training parents to use these simple reading exercises at home with their children would lead to an increase in both parent feelings of self-efficacy, as measured by the parent perception of self-efficacy scale discussed above, and an increase in student reading scores, as measured by grade-level Dynamic Indicators of Basic Early Literacy Skills (DIBELS) assessment (Good & Kaminski, 2002). This study further hypothesized that the correlation between these two scores would increase as student reading scores increased.

Chapter 2- Method

Participants

Forty-two parents of 1st and 2nd grade students from five elementary schools in an urban area in West Virginia began the project in September 2012. Twenty-three of these parents completed all 12 weeks and both phases of the project. Parents who left the study and communicated with the experimenter about why they were leaving (3 parents) indicated that work commitments or health problems prevented continued participation. The 16 other parents who did not complete the study ceased communication with the experimenter, did not return forms or attend meetings, and did not respond to repeated phone calls, texts, and emails. A number of these parents did not have working contact phones, and letters were sent weekly to the schools their children attended; no response was ever received to these letters. Several parents were reported by the schools to have moved out of the area.

The 42 initial participants were randomly split into two treatment groups of 21 participants each. Of the 42 initial participants, 37 were women and 5 were men. Twenty of their children were in 1st grade, and 22 were in 2nd grade. Twenty-one of their children were girls and 21 were boys. Two (5 %) of the parents identified their race/ethnicity as Black/African American, 1 (2 %) identified their race/ethnicity as Asian/Asian American, and 39 (93 %) identified their race/ethnicity as White/Caucasian. These demographics closely mirror the population of the urban area in West Virginia, where per the 2010 census 94 % of the population identified as White alone, 3.5 % identified as Black or African American alone, and 0.7 % identified as Asian alone (U.S. Census Bureau, 2010). Of the 23 parents who completed the study, 22 were women and

1 was a man. Twelve of their children were in 1st grade and 11 were in second grade. Fourteen of their children were girls and 9 were boys. Twenty-two (96 %) of the parents were White/Caucasian, and 1 (4 %) was Asian/Asian American. Ten of the parents randomly placed into the first treatment group completed the entire study, and 13 of the parents randomly placed into the initial control group/second treatment group completed the entire study.

Procedure

Approval for this project was granted by the Marshall University Institutional Review Board (see Appendix). All principals of elementary schools located in the small city in West Virginia were contacted in August 2012, told about the study, and invited to participate. Of the eleven principals contacted, five agreed to have their schools participate and allow parents from their school to be invited to take part. Letters briefly explaining the project and inviting parents to sign up to receive more information were sent home with all 1st and 2nd grade students at the participating schools the week of August 20th, 2012. Parents were instructed to complete a brief form with contact information and return it to their child's school. Follow up forms were sent out the following week. Forms were collected from the schools, and all parents who had returned a form were contacted via phone, text, and email (based on preferred contact method indicated on the form) and invited to attend an informational meeting about the project the following week. Meeting times were offered over four days (Mon.-Thurs.) before school, at lunchtime, and in the evening. Each school had two meeting times available, at two different times of day to attempt to accommodate parental schedules.

Parents had the option of attending an informational meeting at another school if they could not attend either of the meetings at their school.

One hundred twelve- parents returned letters requesting more information about the project. All were contacted via phone, text, and email and given meeting time information. Letters with this information were sent to the schools of several parents who had filled out forms but did not list or have working contact phone numbers. Forty-nine parents attended informational meetings, where they were told about the study in detail, and asked if they would like to participate. Forty-two parents agreed to participate at these meetings. Seven parents attended meetings but declined to participate after hearing the details of the project; most cited limited time as the reason they did not want to participate; several indicated that they did not think their child would benefit from the intervention.

The study had two phases: a six week treatment phase, with treatment and control groups, and a six week reversal phase, where the initial control group received the treatment and the initial treatment group ceased treatment and became a control group. These six week sessions ran concurrently from Sept.-Dec. 2013. In the treatment phase, parents were trained in a reading intervention to do at home with their children, asked to do the intervention four days a week, and given weekly logs where they were to chart their intervention sessions. They would return these logs to their child's school weekly, and new logs would be sent home. In the control phase parents were told to read with their children as they normally do, and asked to log the number of minutes per day they read together. Detailed information about both logs is in the Appendix.

The intervention consisted of having the child read to the parent for at least 15 minutes four days a week, and then having the parent ask the child three comprehension questions: one, what happened in what we just read; two, what do you think will happen next; and three, a question of the parent's choosing (a list was provided with sample questions, or parents were able to make up their own third question). Parents were trained to continue asking the questions until their child had provided three statements or answers in response to each question. There was a data chart at the bottom of each log page where parents were to circle the days they read, how many minutes they read each day, and whether or not they asked the questions, in order to assess implementation fidelity of the intervention. Children and parents were able to select any book they chose; the school libraries agreed to allow all participating children to check out books to take home to read for the project if they wanted; books could also be selected from personal collections, the public library, or other sources.

Two variables were examined: parental self-efficacy before and after the intervention, measured using the Parental Self-Efficacy scale described in the previous section, and student reading scores before and after the intervention, measured by the appropriate DIBELS assessments for the child's grade level. First graders were given the DIBELS Letter Naming Fluency, Phoneme Segmentation Fluency, and Nonsense Word Fluency, which contains two scores, Correct Letter Sounds and Whole Words Read, for a total of four reading measures. Second graders were given the Nonsense Word Fluency measures as described previously, and the Oral Reading Fluency measures, for a total of three reading measures. Pretest measures were taken on both treatment and control groups prior to the start of the intervention. Posttest measures on both reading and self-

efficacy items were taken at the end of the first six weeks, marking the end of the first treatment phase.

The treatment and control groups then switched, with the control group being trained in the intervention and beginning the activities in the seventh week of the study, and the initial treatment group being asked to return to whatever their normal reading activities with their child were prior to the project. The experimenter checked in with parents in the treatment group weekly, by phone, text, or email according to parent preference, and with parents in the control group bi-weekly, again by stated parentally preferred contact method. The experimenter was also available to all parents in the study via phone or email on an as-needed basis to answer parental questions. Parents contacted the experimenter in this manner throughout the study with questions about getting books from their school libraries, and with questions when they had decided to leave the study.

At the end of the second six-week phase, posttest measures were administered once more, in order to compare the changes in self-efficacy and reading scores across the two groups.

Instruments

Parent self-efficacy scale. (see Appendix) Detailed information about the development and psychometrics of the scale is found in the review of literature section above. The scale as used here had six statements measuring parental feelings of self-efficacy, each presented as a six-item Likert scale, with one being disagree very strongly, and six being agree very strongly. The statements were: I know how to help my child do well in school; I don't know if I'm getting through to my child; I don't know how to help my child make good grades in school; I feel successful about my efforts to help my child

learn; and I don't know how to help my child learn. In order to create a total self-efficacy score, the negative items (# 2, # 3, and # 6) had the answer values revered for data tabulation so that the high-low rankings for all six items corresponded with one another.

DIBELS. (see Appendix) Dynamic Indicators of Basic Early Literacy Skills (DIBELS) (Good & Kaminski, 2002) is a series of standardized, individually administered, brief grade-level specific probes designed to measure key research based aspects of early literacy skills. This study used first grade DIBELS probes, including Letter Naming Fluency (the number of letters on a stimulus page that a child can name in one minute), Phoneme Segmentation Fluency (the number of orally presented words that a child can correctly break down in phonemes in one minute), and Nonsense Word Fluency (the number of correct letter-sound blends a child can produce from presented vowel-consonant and consonant-vowel-consonant nonsense words in one minute). The Letter Naming Fluency and Phoneme Segmentation Fluency probes produce a single score; the Nonsense Word Fluency probe produces two scores, Correct Letter Sounds and Whole Words Read, for a total of four reading measures for first grade participants. The study used the second grade DIBELS measures of Nonsense Word Fluency, which is the same in structure as the probes given to the first graders, but has different letter blends, as well as and the Oral Reading Fluency measure (the number of words in a presented grade-level passage a student is able to correctly read in one minute) for a total of three reading measures. Detailed information about reliability and validity for the DIBELS measures utilized in this experiment is available in the Appendix.

Chapter 3- Results

Whole-Group Results

As shown below in Table 1, total group t-tests from the combined treatment groups showed that parent self-efficacy scores across the three phases of treatment were highly correlated with one another.

Table 1

Total Group T-Tests of Treatment Group Self-Efficacy Scores

Group	N	Correlation	Significance
Total Eff. Time 1-2	23	.806	.000
Total Eff. Time 2-3	23	.886	.000
Total Eff. Time 1-3	23	.834	.000

Note. Total Eff. Time 1-2= mean self-efficacy scores from the start of the study correlated with mean self-efficacy scores at the six-week reversal point; Total Eff. Time 2-3= mean self-efficacy scores from the six-week midpoint of the study correlated with mean self-efficacy scores from the 12-week point close of the study; Total Eff. Time 1-3= mean self-efficacy scores from the start of the study correlated with mean self-efficacy scores from the 12-week point close of the study.

As shown below in Table 2, paired-sample t-tests of these treatment groups showed that there was a significant overall increase in total self-efficacy scores between the first and second phases of the treatment, and between the first and third phases of the treatment. These results show that treatment group parent self-efficacy scores increased throughout the intervention.

Table 2

Paired Sample T-Tests of Treatment Group Mean Self-Efficacy Scores

Group Number	Mean Total Eff. Score	Pair Number	Diff. in Mean	t	Sig.
1	21.00	Pair 1 (Group 1-Group 2)	1.869	2.734	.012*
2	22.869	Pair 2 (Group 2-Group 3)	.659	1.574	.130
3	23.565	Pair 3 (Group 1-Group 3)	2.565	4.024	.001*

As shown below in Table 3, Pearson correlations were calculated to determine if there were any significant correlations between amount of change in parental self-efficacy scores, and the amount of change in child reading scores. No significant correlations were found between either of these groups.

Table 3

Pearson Correlations Between Amount of Change in Reading and Self-Efficacy Scores

Variable	Corr. w/Read Change 1	Corr. w/Eff. Change 1	Corr. w/Read Change 2	Corr. w/Eff. Change 2
Read Change 1	----	.028 Sig. .907	.434 Sig. .039*	.125 Sig. .599
Eff. Change 1	.028 Sig. .907	----	.177 Sig. .456	-.519 Sig. .019*
Read Change 2	.434 Sig. .039*	.177 Sig. .456	----	-.126 Sig. .595
Eff. Change 2	.125 Sig. .599	-.519 Sig. .019*	-.126 Sig. .595	----

Note. Read Change 1=amount of change in treatment group reading scores from time 1 to time 2; Read Change 2=amount of change in treatment group reading scores from time 2 to time 3. Eff. Change 1=amount of change in treatment group self-efficacy scores from time 1 to time 2; Eff. Change 2= amount of change in treatment group self-efficacy scores from time 2 to time 3.

Grade-Level Results

Pre-test total self-efficacy scores of the two treatment groups were compared to determine if the randomly selected groups were statistically significantly different from one another as a first step to guide further data analysis. Mean total self-efficacy pre-test scores were calculated for both groups. The mean score for treatment group A was 17.8; the mean score for treatment group B was 23.46. A one way ANOVA was conducted on these pre-test total self-efficacy scores, which revealed significant differences between the two treatment groups: $F = 7.720$, $p = .01$. Due to this difference, further analysis was conducted to determine which grades and groups of participants accounted for this difference.

There was no significant difference between the total pre-test self-efficacy scores of the two 1st grade groups: 1st grade treatment group A mean = 23.00, 1st grade treatment group B mean = 23.38; $F = .026$, $p = .874$. The total pre-test self-efficacy scores of the 2nd grade groups, however, were significantly different: 2nd grade treatment group A mean = 14.33, 2nd grade treatment group B mean = 23.60; $F = 12.36$, $p = .007$. Parents in this randomly selected section of the treatment groups entered the study with highly different initial feelings of self-efficacy; the parents in the 2nd grade treatment group A had significantly lower pre-test self-efficacy scores than any of the other three treatment groups. The very small size of this treatment group (N = 6) limits the utility of attempting to examine individual demographic factors that contributed to this initial difference; given the difference, however, the four treatment and control groups were compared using paired-sample t-tests to determine if the change in both reading and self-efficacy scores was significant pre- and post-test.

Table 4

Pre- and Post-Test Results: 1st Grade

Measure	Pre-test Mean	Post-test Mean	t score	Significance level (sig. at .05)
1st Grade Treatment Group A				
Letter-naming Fluency	45.5	67.5	-3.56	*p*=.038*
Phoneme Segmentation Fluency	46.75	71.75	-10.067	*p*=.002*
Nonsense-Word Fluency Correct Letter Sounds	28.5	53.5	-3.72	*p*=.034*
Nonsense-Word Fluency Whole Words Read	3.25	15	-3.337	*p*=.044*
Total Self-Efficacy	23	27.5	-2.435	*p*=.093
1st Grade Control Group A				
Letter-naming Fluency	44.75	55.63	-3.256	*p*=.014*
Phoneme Segmentation Fluency	48.63	65.25	-2.327	*p*=.053*
Nonsense-Word Fluency Correct Letter Sounds	32	49	-2.405	*p*=.047*
Nonsense-Word Fluency Whole Words Read	3.38	14.38	-3.821	*p*=.007*
Total Self-Efficacy	23.38	23.13, t,	.447	*p*=.668
1st Grade Treatment Group B				
Letter-naming Fluency	55.63	68.63	-3.798,	*p*=.007*
Phoneme Segmentation Fluency	65.25	74.38	-2.95	*p*=.021*
Nonsense-Word Fluency Correct Letter Sounds	49	58.88	-3.015	*p*=.020*
Nonsense-Word Fluency Whole Words Read	14.38	17.38	-1.954	*p*=.092
Total Self-Efficacy	23.125	24.75	-3.265,	*p*=.014*
1st Grade Control Group B				
Letter-naming Fluency	67.5	72.75	-.925,	*p*=.423
Phoneme Segmentation Fluency	71.75	80	-1.777	*p*=.174
Nonsense-Word Fluency Correct Letter Sounds	53.5	80	-2.511	*p*=.087
Nonsense-Word Fluency Whole Words Read	15	25.5	-2.832	*p*=.066
Total Self-Efficacy	27.5	26.75	.878	*p*=.444

1st grade scores.

Results for the 1st grade groups are shown above in Table 4. The 1st grade treatment group A showed significant changes in all four assessed reading areas. The change between the pre- and post-test total self-efficacy scores for this group was not statistically significant.

The corresponding 1st grade control group A showed significant changes in all four assessed reading areas as well, although these changes were smaller than those seen in the treatment group. The change between the pre- and post-test total self-efficacy scores for this group was also not statistically significant, and was a much smaller change, representing a slight decrease in total self-efficacy scores, than in the treatment group.

In the second six week phase of the study, when the two groups reversed and the first control group became the treatment group, a similar pattern of scores was seen. The 1st grade treatment group B showed significant changes in three of the four assessed reading areas: Letter-naming Fluency, Phoneme Segmentation Fluency, and Nonsense-Word Fluency Correct Letter Sounds. The Nonsense-Word Fluency Whole Words Read measure did not show significant change, although it did increase from pre-test to post-test. Unlike in the 1st grade treatment group A, however, the 1st grade treatment group B did show a statistically significant change between the pre- and post-test total self-efficacy scores.

Unlike the 1st grade control group A, the 1st grade control group B did not show significant changes in their reading scores from pre- to post-test; none of the four assessed reading areas changed significantly. The change between the pre- and post-test total self-efficacy scores for this group was also not statistically significant, and represented a slight decrease in scores.

Table 5

Pre- and Post-Test Results: 2nd grade

Measure	Pre-test Mean	Post-test Mean	t score	Significance level (sig. at .05)
	2nd Grade Treatment Group A			
Nonsense-Word Fluency Correct Letter Sounds	44.67	79.17	-2.159	*p*=.083
Nonsense-Word Fluency Whole Words Read	13.17	25.17	-2.186	*p*=.080
Oral Reading Fluency	66.83	76.5	-.892	*p*=.413
Total Self-Efficacy	14.33	18.83	-3.826	*p*=.012*
	2nd Grade Control Group A			
Nonsense-Word Fluency Correct Letter Sounds	68.2	80.6	-2.902	*p*=.044*
Nonsense-Word Fluency Whole Words Read	21.6	26	-3.066	*p*=.037*
Oral Reading Fluency	60	79.2	-.3.069	*p*=.037*
Total Self-Efficacy	23.6	23.6	.000	*p*=1
	2nd Grade Treatment Group B			
Nonsense-Word Fluency Correct Letter Sounds	80.6	96	-2.033	*p*=.112
Nonsense-Word Fluency Whole Words Read	26	31.8	-2.071	*p*=.107
Oral Reading Fluency	79.2	94.6	-.2.380	*p*=.076
Total Self-Efficacy	23.6	24.4	-2.138	*p*=.099
	2nd Grade Control Group B			
Nonsense-Word Fluency Correct Letter Sounds	79.17	93.17	-2.681	*p*=.044*
Nonsense-Word Fluency Whole Words Read	25.17	31	-3.599	*p*=.016*
Oral Reading Fluency	76.5	81.33	-.412	*p*=.076
Total Self-Efficacy	18.83	19.17	t=-.241	*p*=.819

2nd grade scores.

Results for the 2nd grade groups are shown above in Table 5. The 2nd grade treatment group A did not show significant change in any of the three assessed reading areas. There was a statistically significant change in the self-efficacy scores for this group from pre- to post-test.

The corresponding 2nd grade control group A showed an inverse pattern of the results above. All three assessed reading areas showed a significant increase. Self-efficacy scores were unchanged in this control group from pre- to post-test.

When the two groups reversed in the 2nd six weeks of the study, mixed results were seen. The 2nd grade treatment group B saw no significant change on any measure. Change on all three assessed reading measures was insignificant. Self-efficacy scores for this treatment group also did not show significant change from pre- to post-test.

The 2nd grade control group B saw increases in the two Nonsense Word Fluency measures, but not in Oral Reading Fluency. Self-efficacy scores were not significantly different from pre- to post-test.

Chapter 4- Discussion

Results of the changes in parental self-efficacy scores showed that the first hypothesis appears to be true: there was a significant positive change in parental self-efficacy scores across the course of treatment. This suggests that training parents to do a simple home-literacy intervention with their children will make parents express higher feelings of self-efficacy about their ability to help their children with school. These results are consistent with the established research discussed in the review of literature section; parents report improved feelings of self-efficacy when they are empowered and trained to play an active role in their children's education.

The second hypothesis, that child reading scores will increase as a result of the intervention, does not appear to have a conclusive result. Results were highly variable across the treatment groups and grade levels with regard to child reading scores. In the 1st grade groups, the first treatment and control groups both saw significant increases in reading scores. When these groups reversed for the second treatment/control condition, the treatment group saw significant increases in reading scores, while the control group saw no significant differences in reading scores.

In the 2nd grade groups, there was not a consistent pattern to the results. In the first treatment/control condition, reading scores of the treatment group did not increase significantly. For the control group, reading scores increased significantly. In the second treatment/control condition, there were no significant changes in reading scores for the treatment group, and the control group saw significant increases in two of the three reading measures.

The inconsistent pattern of these results is in contrast to the established research discussed in the review of literature section (Fishel & Ramirez, 2005; Senechal & Young, 2008; Sylva et al., 2008; Toomey 1993), where child reading scores were shown to increase with parent involvement.

None of the data appears to support the third hypothesis, that there would be a correlation between changes in parent feelings of self-efficacy and changes in child reading scores. No significant correlations were found between the amount of change in parent self-efficacy and the amount of change in child reading scores. Self-efficacy clearly went up; child reading scores varied; these two sets of scores are not closely correlated with one another. The literature discussed in this paper does not report on any empirically tested correlations between parental self-efficacy scores and child reading scores as was hypothesized in this study. Further research is needed to confirm whether such a link does not exist, or was not shown to exist here due to some limitation of this study.

The small sample size of the study limits the ability to draw conclusions from it. Although demographic and implementation fidelity information was collected on all participants that could potentially help to explain the inconsistent pattern of results, the *n*s of the groups, when broken down by grade, are so small that no statistically justifiable conclusions could be drawn from detailed analysis of group differences. Any further study should include a much larger number of participating parents, so that potentially skewed findings due to variances among individual participants could be eliminated. Further studies would also benefit from using a sample group that was more diverse in terms of gender and ethnicity. Also, additional demographic information about child

school variables, such as whether a student receives special education services, should be collected in future studies to gain information about child learning variables that could influence results. Additional studies could also be improved by using a measure of Oral Reading Fluency to track student reading improvements consistently across grade levels.

A limitation of this study is that it did not control for potential delayed treatment effects of the reversal design; parents who were in the initial treatment group and then reversed to the control group, although instructed to not continue the intervention, may have continued to work with their children despite these instructions. Further, even if parents did not overtly continue the intervention once they reversed to the control group, they may have continued to subtly interact with their children in a way that was different from their behavior prior to the study. Future studies should utilize a different design so as to prevent possible delayed treatment effects. While doing this, it also could be useful for future studies to continue to track parent implementation of the intervention after the study ends, to see if the effects from the intervention continue.

Appendix

Appendix A

Parental Self-Efficacy for Helping the Child Succeed in School Scale

Please indicate how much you AGREE or DISAGREE with each of the following statements.
Please think about the current school year as you consider each statement.

1=Disagree very strongly 6=Agree very strongly

7. I know how to help my child do well in school.	1	2	3	4	5	6
8. I don't know if I'm getting through to my child.	1	2	3	4	5	6
9. I don't know how to help my child make good grades in school.	1	2	3	4	5	6
10. I feel successful about my efforts to help my child learn.	1	2	3	4	5	6
11 I don't know how to help my child learn.	1	2	3	4	5	6

From Hoover-Dempsey, K. V., Bassler, O. C., & Brissie, J. S. (1992). Explorations in Parent-School Relations. *Journal of Educational Research*, 85(5), 287.

Appendix B

Reading Questions

Please read with your child **4 times a week** for at least **15 minutes**. If your child is not yet reading on their own, you can read to them, or you can read a book together. If your child is reading on their own, have them read out loud to you. When you are done reading, ask them **3** questions:

1. What happened in what we just read?

2. What do you think will happen next?

3. Then, choose one more question from this list, or make up one of your own.

- If you could be any character in the story who would it be and why?
- What are two questions that you would like to know about what we just read?
- What is the problem in the story?
- What is your favorite part of this story? Why?
- Would you tell your friends to read this story? Why or why not?

Always try to get your child to tell you **3** things in answer to each question. Keep asking them questions until you get **3** things- "What else happened?" "And then what happened after that?", "What else do you think will happen?", "Why else do you like that character?" "Why would you like to know that?" "What else makes that your favorite part?", "Why else do you think your friend would like this story?", etc.

Please circle below the days you read, the amount of time, and if you talked about the questions. Thank you!

DAY	MON	TUES	WED	THURS	FRI	SAT	SUN
TIME	10 15 20 25+	10 15 20 25+	10 15 20 25+	10 15 20 25+	10 15 20 25+	10 15 20 25+	10 15 20 25+
?s	Y N	Y N	Y N	Y N	Y N	Y N	Y N

Reading Log

Child's Name:_____

Please note what days you read at home with your child, and for how long.

Date:_____ Minutes Completed:_____

Date:_____ Minutes Completed:_____

Date:_____ Minutes Completed:_____

Date:_____ Minutes Completed:_____

Date:_____ Minutes Completed:_____

Parent Signature:_____

Please submit this log by the Monday following this week by either:

- Sending the form to school in your child's backpack
- Dropping the form off in the drop box located in the school office
- Returning the form by mail in the provided pre-paid envelopes
- Scanning and emailing the form to bondfarrell@marshall.edu

Thank you!

Appendix C

DIBELS Information

Information about reliability and validity of the DIBELS measures is reported by Good et al (2004). For the measures utilized in this study, technical information is as follows:

Letter Naming Fluency

1-month, alternate-form reliability of Letter Naming Fluency is .88; criterion-related validity of Letter Naming Fluency with the Woodcock-Johnson Psycho-Educational Battery-Revised Readiness Cluster standard score is .70; predictive validity of kindergarten Letter Naming Fluency with first grade Woodcock-Johnson Psycho-Educational Battery-Revised Reading Cluster standard score is .65; first grade Curriculum Based Measurement Oral Reading Fluency predictive validity is .71.

Phoneme Segmentation Fluency

1 month, alternate-form reliability of Phoneme Segmentation Fluency is .79; criterion-related validity of Phoneme Segmentation Fluency with the Woodcock-Johnson Psycho-Educational Battery-Revised Readiness Cluster standard score is .54; predictive validity of kindergarten Phoneme Segmentation Fluency with first grade Woodcock-Johnson Psycho-Educational Battery-Revised Total Reading Cluster standard score is .68; first grade Curriculum Based Measurement Oral Reading Fluency predictive validity is .62.

Nonsense Word Fluency

1 month, alternate-form reliability of Nonsense Word Fluency is .83;

criterion-related validity of Nonsense Word Fluency with the Woodcock-Johnson Psycho-Educational Battery-Revised Readiness Cluster standard score is .36; predictive validity of Nonsense Word Fluency with Woodcock-Johnson Psycho-Educational Battery Total Reading Cluster standard score is .66; first grade Curriculum Based Measurement Oral Reading Fluency predictive validity is .82.

Oral Reading Fluency

DIBELS Oral Reading Fluency is based upon the general principals of Curriculum-Based Measurement for reading. Cited literature in the DIBELS manual (Good & Kaminski, 2002) lists test-retest reliabilities ranging from.92 to .97; alternate-form reliability of passages on the same reading level from .89 to .94, and criterion-related validity coefficients ranging from .52 - .91.

Appendix D

Marshall University Institutional Review Board Approval Letter

Office of Research Integrity
Institutional Review Board
401 11th St., Suite 1300
Huntington, WV 25701

FWA 00002704

IRB1 #00002205
IRB2 #00003206

September 11, 2012

Sandra Stroebel, Ph.D.
School Psychology Department

RE: IRBNet ID# 319425-1
At: Marshall University Institutional Review Board #2 (Social/Behavioral)

Dear Dr. Stroebel:

Protocol Title:	[319425-1] A Home-School Literacy Intervention to Increase School-Related Parental Self-Efficacy and Child Reading Scores	
Expiration Date:	September 11, 2013	
Site Location:	MUGC	
Submission Type:	New Project	APPROVED
Review Type:	Expedited Review	

In accordance with 45CFR46.110(a)(7), the above study and informed consent were granted Expedited approval today by the Marshall University Institutional Review Board #2 (Social/Behavioral) Chair for the period of 12 months. The approval will expire September 11, 2013. A continuing review request for this study must be submitted no later than 30 days prior to the expiration date.

This study is for student Holly Bond Farrell.

If you have any questions, please contact the Marshall University Institutional Review Board #2 (Social/Behavioral/Educational) Coordinator Michelle Woomer, B.A., M.S at (304) 696-4308 or woomer3@marshall.edu. Please include your study title and reference number in all correspondence with this office.

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Curriculum Vitae

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Marshall University, Huntington, WV
NASP-approved program
Thesis: A Home-School Literacy Intervention to Improve Student Reading Scores and Parental Feelings of Self-Efficacy
Expected May 2014
Eligible for Nationally Certified School Psychologist (NCSP) Certification upon graduation

MA Psychology with School Psychology Emphasis
Marshall University, Huntington, WV
December 2012

RBA Emphasis in Psychology
Marshall University, Huntington, WV
August 2010

FIELD EXPERIENCES IN SCHOOL PSYCHOLOGY
School Psychologist Intern and Behavior Specialist, William Penn School District, 2013-2014
Jim Schwartz, Supervising School Psychologist, Evans Elementary and Penn Wood High School

- Conducted comprehensive psycho-educational assessments for students K-12
- Conducted Functional Behavioral Assessments and wrote Positive Behavior Support Plans
- Participated in Manifestation Determination process and wrote Manifestation Determinations
- Consulted with teachers and administrators about students with behavior problems
- Created behavior plans and provided support to teachers for implementation of plans
- Provided group counseling to students in grades K-8 at two schools
- Provided individual counseling to students in grades 1-8
- Conducted crisis counseling for students with acute problems
- Implemented academic and behavioral interventions with students K-8
- Participated in IEP meetings
- Participated in interagency meetings for students with academic and behavioral problems
- Participated in school intervention team

- Conducted needs assessment survey of collaboration between special and regular education teachers at elementary school

School Psychology Practicum Student, Kanawha County School District, *2012-2013*
Dawn Paige, Supervising School Psychologist, Chandler Academy

- Provided individual counseling to students
- Held group counseling sessions
- Provided crisis counseling for students with acute problems
- Attended IEP meetings
- Conducted Functional Behavioral Assessments and wrote corresponding behavior plans
- Consulted with teachers on classroom behavioral issues and collaborated on the creation of individual and classroom behavior plans.

School Psychology Pre-Practicum Student, Cabell County School District, *2011-2012*
Don Gossett, Supervising School Psychologist

- Attended Student Assistance Team meetings
- Completed classroom observations in general and special education classrooms
- Administered behavior rating scales
- Conducted behavioral observations and wrote behavior plans
- Gave curriculum based assessments and designed and conducted tutoring sessions targeted to identified student needs
- Conducted Functional Behavioral Analyses and wrote corresponding behavior plans

GRADUATE ASSISTANTSHIP

Program Assistant, Marshall University, School Psychology Program, *2011-2012*
Sandra Stroebel, PhD, NCSP, Supervising Faculty Member
A 9-month assistantship consisting of 10 hours per week

- Supported program faculty with course related tasks, including grading, scoring of standardized assessments, and editing of theses
- Developed program recruitment materials including design of program brochures and creation of recruitment information database
- Assisted with specific tasks related to NASP and NCATE re-accreditation, including editing and compiling documents, analyzing data, and preparing charts and graphs

RELATED EXPERIENCE

Mental Health Consultant, Appalachian Council Headstart, *2011-2013*
Charleston, WV
Fred Jay Krieg, PhD, Supervising Psychologist
A part-time position providing mental health consultation for referred pre-school students in six counties

- Consulted with teachers on behavioral and mental health concerns
- Completed classroom behavioral observations
- Conducted Functional Behavioral Analyses
- Designed and wrote behavior plans
- Collaborated with teachers on implementation of behavior plans
- Drafted follow-up reports on each referred student

PROFESSIONAL ASSOCIATIONS: LEADERSHIP

Technology Representative, 2011-2012, West Virginia School Psychologists Association

- Member of state association Executive Board
- Collaborated on development of new website
- Responsible for creation of social media resources
- Oversaw implementation of online payment platform

PROFESSIONAL ASSOCIATIONS: MEMBERSHIP

National Association of School Psychologists
West Virginia School Psychologists Association