

Evaluation Report Empowering Families through 1/1/2018

Currently, the *Empowering Families* intervention is undertaking the final year of implementation and data collection. To date, 3 cohorts of participants have received the intervention. The current report presents data and findings related to the implementation of *Empowering Families* through the 3 cohorts. Overall impacts, across all schools, will be examined at the completion of the implementation.

Data collection

For the purpose of data collection, pre- post-intervention surveys were collected for parents and educators who participated in the training. The pre-post design includes the completion of a survey a beginning of the *Empowering Families* training protocol and the immediate completion of the same survey at the end of the training sessions. The survey was designed to assess attitudes and behaviors related to parental engagement in schools. Additionally, the parent survey included a parent modernity scale and an assessment of their children's social emotional development pre and post intervention. This allowed researchers to assess the potential impact of the intervention on attitudes toward parent involvement, parenting and perceptions of children's development.

Measures

Parent Survey. To assess the impact of the *Empowering Families* for the first year, the parent survey was developed from the Family School Partnership Lab surveys of parent –teacher involvement and was based on their model of parent involvement process which was funded in part through another DOE IES grant. The survey considers various aspects of family motivations and mechanisms for involvement including: Efficacy (Hoover-Dempsey & Sandler, 2005), Encouragement (Hoover-Dempsey & Sandler, 2005), Report of Modeling (Hoover-Dempsey & Sandler, 2005), Instruction (Hoover-Dempsey & Sandler, 2005), Reinforcement (Hoover-Dempsey & Sandler, 2005). In years 2 and 3, *Views of the Importance of Specific Academic and Social Involvement Activities* (The Incredible Years, 2004) and *The Parental Modernity Scale*, (Schaefer& Edgerton, 1985) were added to the parent survey. *The Parental Modernity Scale* is a measure designed to assess family beliefs in terms of traditional, authoritarian beliefs versus more progressive, democratic beliefs. Additionally, the parent survey includes the age-appropriate version Devereux Early Childhood Assessment to assess children's social emotional development. For preK aged children, The Devereux Early Childhood Assessment Preschool Program, 2nd Edition (DECCA) was used; and for the children grades K-3 The Devereux Student Strengths Assessment (DESSA)-Second Steps was employed.

Educator Survey. To assess the impact of the *Empowering Families* for teachers and staff, a survey was developed from the Family School Partnership Lab surveys of parent –teacher involvement which were developed through DOE IES funding. The survey includes the following scales: Teacher Beliefs about the Importance of Specific Involvement Practices; Teacher Beliefs about Parent Involvement; Teacher Perceptions of Parent Efficacy for Helping Children Succeed in School; Teacher Invitation to Parental Involvement and Teachers' Self-Efficacy for Teaching. For Cohorts 2 and 3, the survey included *The Teachers Beliefs and Practices Scale* (Charlesworth, 1998) to assess teachers' developmentally appropriate attitudes and classroom practices.

Cohort 1 Analysis and Results

The primary function of this cohort was to provide preliminary data regarding the efficacy of the intervention as well as to provide process information to further inform and guide training.

PreK Family Survey. PreK families' data indicated that the intervention had a significant and positive impact of Parent Efficacy for Helping the Child Succeed in School ($t=-2.49$, $p=.05$) and on Parental Report of Instruction ($t=-14.3$, $p<.01$). The Parent Efficacy Scale includes items such as: I know how to help my child do well in school and I make a significant difference in my child's school performance. Items for the Parental Instruction scale include: parents teaching children to follow teachers' directions, to work hard and to ask questions when he/she doesn't understand something. Approximately 47% of parents agreed very strongly that they knew how to help their child do well in school prior to the intervention. After the intervention, this percentage jumped to 57%. Similarly, about 36% of parents reported that they agree or agree very strongly that they knew how to help their child learn prior to the intervention compared to 49% of families that report they know how to help their child learn after participating in the *Empowering Families* intervention. No significant differences between the pre and post surveys were found in parental report of children's social emotional development.

Educator Survey. Educators' pre- and post-surveys did not indicate a significant shift in Teacher Beliefs about the Importance of Specific Involvement Practices; Teacher Beliefs about Parent Involvement; Teacher Perceptions of Parent Efficacy for Helping Children Succeed in School; Teacher Invitation to Parental Involvement and Teachers' Self-Efficacy for Teaching. As a response to the findings, researchers have added the *Teacher's Beliefs and Practices Scale* to the survey in order to further assess the impact of the *Empowering Families* intervention in subsequent years. Researchers anticipate that this instrument may be more sensitive in determining the impact of the intervention, since it addresses children's executive functioning in a manner consistent with MITM.

Fidelity of the Intervention. For the parents, the full *Empowering Families* training encompasses 16 hours of training. Data indicated that 66% of the parents attended at least half or more of the *Empowering Families* sessions. Attendance records indicated that 18% of families attended all sessions and 20% of families attended all but one session, totaling 38% of families that attended 14-16 hours of training. This places fidelity of attendance in the mid-range. It is important to note that, approximately 20% of families attended only one session. The steepest drop off in attendance was observed between the first and the second sessions. This suggests that the first session is particularly critical in promoting parent buy-in of the intervention. *Empowering Families* met both their attendance goals as well as their training goal of enrolling and training educators and staff across the participating schools. Attendance records show that 88% of educators attended all training sessions, indicating a high fidelity. The take up rate at the participating schools was approximately 63%. This is mid-range saturation at the school level. Research suggests that saturation is an important factor in influencing the sustainability of the impact of the intervention.

Another factor in the fidelity is the delivery of the different components that comprise the training protocol. Training logs of the PreK and K-3 families suggest that all 8 training sessions

were offered to each training cohort. Additionally, records indicate that the various components that comprise the individual training session were delivered and the training session requirements met. This represents high fidelity of the intervention. Training logs from educators indicate that *Empowering Families* intervention was delivered as designed. The components of the training sessions were delivered and training goals were met. This represents high fidelity of the intervention. In order for the training to effectively impact participants, it must be viewed positively by participants. The evaluations from the training sessions indicate that the vast majority of the participants perceived in the training, the facilitators and the overall learning experience very positively. This represents high fidelity of the intervention.

Cohort 2 Data and Analysis

Cohort 2 represents year 2 of data collection and the participation of different parents and 7 different schools from those in cohort 1. Similar methodologies and measures to those used in Cohort 1 were employed.

Family Survey. For Cohort 2, additional measures were added to the parent survey to further assess the impact of *Empowering Families*. In addition to the measures used for Cohort 1, the *Importance of Specific Academic and Social Involvement Activities* (The Incredible Years, 2004) and *The Parental Modernity Scale*, (Schaefer & Edgerton, 1985) were added. *The Parental Modernity Scale* is designed to assess family beliefs in terms of traditional, authoritarian beliefs versus more progressive, democratic beliefs.

Prek Family Survey. Results indicated a significant shift in family attitudes from the pre-to post-assessment. First, a significant difference was found between pre- and post-intervention reports regarding parental role construction of involvement. This measure was designed to assess the extent to which an individual believes that he or she should be actively involved in the child's education. Participants reported significantly higher scores ($t = -2.29, p < .05$) post-training related to perceptions of their responsibility to be involved in schooling (e.g., I believe it is my responsibility to communicate with my child's teacher regularly; I believe it is my responsibility to volunteer at the school) in comparison to pre-intervention reports. Additionally, a significant pre-post difference ($t = -7.98, p < .01$) was found in attitudes toward families' own efficacy as it relates to their ability to influence children's schooling (e.g., I know how to help my child do well in school; I make a significant difference in my child's school performance). The above findings are important in that one of the primary goals of *Empowering Families* is to significantly impact family involvement in their children's education. This finding is underscored by the age of the participants' children. For these analyses, all families reported having a PreK child. Research has indicated that kindergarten is an important entrance point for families regarding involvement in children's schooling (Wixon, 2015). As such, the intervention is reaching families at a critical point for encouraging school involvement, as these families' children will soon be transitioning into kindergarten.

Besides attitudes toward engagement with schooling and efficacy, significant differences pre- and post-intervention ($t = -1.70, p < .10$) were noted in families' reports of progressive parenting views, as measured by the *Parental Modernity Scale*. This suggests that families tended to feel more positively about progressive views (e.g., It's all right for a child to disagree with his/her parents; A child's ideas should be seriously considered in making family decisions) post-training

versus pre-training. No significant difference was found in the pre/post report of preK parents on children's development measures.

K-3 Family Survey Analyses and Results. The K-3 families are different from the PreK families, in that they all reported having a child in Kindergarten or older and therefore, they were already actively involved in the Providence Public Schools. Results indicated a shift in family attitudes toward engagement but the shift was different from that of the PreK families. First, K-3 families reported a significant difference pre- and post-intervention ($t=-2.43$, $p<.01$) in ratings of how important certain Academic and Social Activities are to children (e.g. How important is it that your child does well in school; How important to children that you talk with teachers). This is distinct from the PreK findings which found a shift in families' attitudes regarding general involvement with schooling and their efficacy to be involved. For K-3 families, we did not see a shift in the importance that families placed on general involvement or a shift in their perceptions of their own efficacy. Instead, the shift was in their perceptions of how important they believed specific parent engagement and academic activities were to their children's success (e.g. How important is it that your child reads and looks at book; how important is it that you keep track on how your child is doing in school). This subtle difference may be a result of K-3 families having more experience with school and as a result, an increased focus on the academic and social aspects of involvement and a historical context for belief in their own efficacy.

Significant differences pre and post were also found on *The Parent Modernity Scale*. Families reported significantly higher scores ($t=6.40$), $p<.01$) in progressive attitudes towards parenting post-intervention versus pre-intervention. Families reported significantly ($t=3.25$, $p<.01$) lower levels of traditional or authoritarian attitudes toward parenting post-intervention versus pre-intervention. *Empowering Families* supports a style of parenting more in-line with progressive attitudes; as such, this finding underscores the effectiveness of the intervention. K-3 families differed from PreK families in that they felt more positive about progressive views **and** less positive about traditional views, as opposed to the PreK families in which a shift only in progressive views was noted. Again, this may be due to an age effect in that as children get older and have greater self-control and negotiating skills, parents are more willing to change some of their traditional views of parenting.

Educator Analyses and Findings. Results of the educator survey indicated some significant shifts in educator attitudes toward parent engagement. Educators ranked the importance of engagement activities significantly higher ($t=-3.06$, $p<.01$) at post-assessment versus pre-assessment. Additionally, educators reported engaging in more engagement activities ($t=1.88$, $p<.06$) post-intervention versus pre-intervention. Teachers also scored significantly higher ($t=-1.25$, $p<.01$) on Parent and Inclusion subscale of the Teacher Beliefs portion of the *Teacher Beliefs and Practices Scale* post intervention versus pre intervention. These findings suggest a relationship between participation in *Empowering Families* and teacher attitudes and behaviors toward parent engagement.

Fidelity of the Intervention. In order for the intervention to be effective, participants need to have a significant dosage of the intervention. The full *Empowering Families* protocol is a 16 hour protocol. Based on attendance records, participants averaged about 11.8 hours of training. Importantly, 80% of participants attended at least half of the training session which indicates

high fidelity of implementation, in terms of attendance parameters. Training sessions were consistently run to completion and all training modules were completed. In order for the training to effectively impact behavior, it must be viewed positively by participants. The training sessions overall were viewed very favorably by participants. The vast majority (86%) of participants strongly agreed that they were able to understand the training. This is important given that the vast majority of the training was done in Spanish and that the level of education of participating families is quite low. Additionally, the vast majority strongly agreed (86-87%) that the training helped improve their skills and that they learned new information.

Cohort 3 Analyses and Results

The same protocol was employed for Cohort 3, as was employed for Cohort 2.

Pre-K Family Survey Data. Significant shifts in families' attitudes regarding parental engagement and parenting were noted among Pre-K families of Cohort 3. For this cohort, families exhibited a shift pre-intervention and post-intervention on the importance that they place on their general involvement and engagement with their children's school (e.g., How important is it that you show interest in your child's school activities; How important is it that you keep close track of whether your child is behaving appropriately at school), with families placing greater importance post-training on their involvement in comparison to pre-training ($t=3.082$, $0<.01$). Additionally, families exhibited a shift pre-intervention and post-intervention regarding the importance that they placed on showing their children school-related activities (e.g. we show our child that we like it when he or she wants to learn new things), with parents placing a greater importance on these activities post-training ($t=2.09$, $p<.05$). According to the Hoover-Dempsey & Sandler Model of the Parental Involvement Process (1995, 1997, 2005, 2010), this represents Values, Goals, Expectations, Aspirations and Parent Encouragement which serves foundational elements to school involvement. As noted in the model, parental role construction for involvement includes parents' beliefs about what they *should* do in relation to their children's education (Hoover-Dempsey & Sandler, 1995, 1997; Hoover-Dempsey et al., in press; Hoover-Dempsey, Wilkins, Sandler, & O'Connor, 2004; Sheldon, 2002; Walker et al, in press).

Additionally, significant differences were also found pre- and post-intervention on *The Parent Modernity Scale* ($t=3.81$, $p<.01$). Specifically, families reported significantly higher scores in progressive attitudes towards parenting post-intervention versus pre-intervention ($t=15.39$, $p<.01$). Parents also exhibited less authoritarian views of parenting post-intervention in comparison to authoritarian attitudes pre-intervention ($t=-1.78$, $p<.10$). *Empowering Families* supports a style of parenting more in-line with progressive attitudes; as such, this finding underscores the effectiveness of the intervention.

K-3 Family Survey Data. Significant differences were noted among families of the K-3 sample, as well. Families in the K-3 sample showed significant differences pre-intervention and post-intervention regarding in the importance that they placed on their school involvement (e.g., How important is it that you show interest in your child's school activities; How important is it that you keep close track of whether your child is behaving appropriately at school; How important do you think it is for your child that you talk with your child about things other than school on a regular basis) and the academics of their children (e.g., How important is it to you that your child does well in school). As such, there was a noted shift from a focus on parents to a greater

emphasis on academic and social activities. This pattern is similar to the findings for the K-3 survey for Cohort 2. According to the Hoover-Dempsey & Sandler's Model of the Parental Involvement Process (1995, 1997, 2005, 2010), a focus on academic and social activities represents learning mechanisms used by parents during the development of the parental involvement process. Hoover-Dempsey & Sandler (1995, 1997, 2005, 2010) placed these attitude shifts at a higher level of involvement than those found in the PreK sample. These activities and parental behaviors generally focus on the individual child's learning-related behaviors, attitudes, or strategies, and include parental activities such as helping with homework and keeping an eye on the child's progress.

Similar to preK families, K-3 families showed a significant shift in attitudes toward parent modernity ($t=7.106$, $p<.01$). Specifically, families expressed significantly less traditional/authoritarian values post intervention versus pre-intervention ($t=-2.09$, $p<.05$) and significantly more modern post intervention versus pre-intervention ($t=2.09$, $p<.05$). As noted above, *Empowering Families* supports a style of parenting more in-line with progressive attitudes; as such, this finding underscores the effectiveness of the intervention and is similar to the findings of K-3 families in Cohort 2.

PreK Child Outcomes. The Devereux Early Childhood Assessment Preschool Program, Second Edition is a measure of preschool children's social and emotional health. The measure is designed for use with children ages 3 through 5 years old, the assessment form is strength-based, nationally standardized, reliable, valid, and easy to use and can be completed by parents. DECA-P2 is divided into 4 subscales: Attachment/Relationships, Initiative, Self-Regulation and Behavioral Concerns. The Attachment/Relationships subscale refers to the child's ability to promote and maintain mutual, positive connections with other children and significant adults. The Initiative subscale is centered on a child's ability to use independent thought and action to meet his or her needs. The Self-Regulation subscale focuses on a child's ability to express emotions and manage behaviors in healthy ways. The Attachment/Relationships, Initiative, Self-Regulation subscales combine to form a total score for Protective Factors to provide an overall estimate of child's social and emotional competencies. Behavioral Concerns which represents problem behaviors displayed by preschool aged children; and high scores on this subscale may indicate needs for intervention and additional supports. In terms of preK family ratings of child development, families rated their children significantly higher on the subscales of Self-Regulation ($t=3.40$, $p <.01$), Attachment/relationships (1.84 , $p <.07$) post-intervention in comparison to pre-intervention. Additionally, families rated children significantly higher on Total Protective Factors post-intervention in comparison to pre-intervention ($t=2.60$, $p<.05$). Families also expressed fewer behavioral concerns post-intervention versus pre-intervention ($t=1.84$, $p<.10$). Although this study cannot show causality, the findings indicate either a more positive shift in parental perceptions of their children's development or potentially an actual change in children's social emotional behaviors from the start to the completion of the *Strengthening Families*. Regardless, either of these shifts represents a positive influence for children's development.

K-3 Child Outcomes. The Devereaux Student Strengths Assessment-DESSA is a normed referenced behavior rating scale that assesses the social-emotional competencies of elementary-aged children and can be completed by parents or teachers. The scale is comprised of four

subscales: Skills for Learning, Empathy, Emotional Management and Problem Solving. Skills for Learning subscale is concerned with a child's ability to use the skills of listening, focusing attention, self-talk and assertiveness. The Empathy subscale is focused on a child's ability to identify and label emotions in himself/herself and other and take on other's perceptions. The Emotional Management subscale includes a child's ability to cope with strong emotions and express them in acceptable ways. The Problem Solving subscale is concerned with a child's ability to effectively handle personal challenges and interpersonal conflicts in prosocial ways. These four subscales are combined to form a composite score that represents an overall score of children's social emotional competence. Families reported significant difference pre- and post-intervention in the developmental outcomes of children as measured by the DESSA for children K-3. Significant differences pre/post were noted in parental perceptions of children's empathy ($t=4.03$, $p<.01$), problem solving ($t=3.32$, $p.01$) and parents rating of children's overall protective factors ($t=2.53$, $p.01$).

Educator Analyses and Findings. Educators placed on greater importance of parent involvement post-intervention versus pre-intervention ($t=4.23$, $p<.01$). Additionally, educators also scored significantly higher for developmentally appropriate beliefs on the *Teacher Beliefs and Practices Scale* post-intervention versus pre-intervention ($t=6.09$, $p<.01$). As such, there appears to be a significant relationship and positive relationship between participation in the intervention and educators' beliefs about child development and attitudes toward parent involvement.

Fidelity of the Implementation. Parents and family members attended on average, 10.5 of the 16 hours of training offered. Only 10% of families attended only one session. Approximately 72% of families attended over half of the sessions (over 10 hours of training) and 22% of families attended all but one session and 21% of families attended all 16 hours of training. Approximately 73% of the preK families attended more than half (10 hours or more) of the *Strengthening Families Mind in the Making* training sessions and about 92% of K-3 families attended more than half (10 hours or more) of the training sessions. Around 23% of PreK families attended all but one session and 21% of preK families attended all of the sessions. For K-3 families, 27% attended all but one training session and 28% attended all sessions. In general, PreK parents averaged 10.8 hours of training (out of a possible 16 hours) and K-3 families averaged approximately 12.6 of training (out of a possible 16 hours). The attendance for preK and K-3 families was high and represents strong fidelity, once a parent/family member attended at least one session. It is important to note that take up rates were lower than anticipated. Multiple individuals who had signed up for the *Empowering Families Mind in the Making* Sessions did not attend the first training session. For this cohort, about 47% of parents who enrolled did not attend at least one session. This may be due to a change in recruitment strategy for the study. Evaluations for the training were strong and similar to previous cohorts. Training sessions were consistently run to completion and all training modules were completed. In order for the training to effectively impact behavior, it must be viewed positively by participants. The training sessions overall were viewed very favorably by participants. The vast majority (85%) of participants strongly agreed that they were able to understand the training. This is important given that the vast majority of the training was done in Spanish and that the level of education of participating families is quite low. Additionally, the vast majority strongly agreed (84%) that the training helped improve their skills and that they learned new information.

Summary and Conclusion

Findings to date suggest that participation in *Empowering Families* has a positive impact on families and educators. Data has indicated a significant shift in families' perceptions of the importance of school involvement and their role in school involvement. These areas have been theorized to be the foundation of parental involvement in schools as well as learning mechanisms for families for continued involvement. Parents are also expressed significantly less authoritarian views toward parenting and more parental flexibility post-intervention versus pre-intervention. Educator surveys have indicated significant shifts in educator attitudes toward parent involvement; parental inclusion and developmentally appropriate beliefs regarding working with young children.

For Cohort 3, parental surveys indicated a positive developmental shift in parents' report of children's development. These findings are preliminary and cannot show causality but do provide some evidence of the association between participation in *Empowering Families* and child outcomes. This will be explored further through additional impact analyses at the conclusion of the intervention in all schools.

Despite recruiting challenges, the study has exhibited high fidelity. Attendance for parents is strong. This is particularly important given the high needs populations that the study reaches. It should be noted that attendance exceeds attendance expectations and those rates found in other studies with similar populations. Added supports however are recommended for the recruitment of educators and families to increase saturation in schools and improve the take-up of rates of families that express interest in the intervention. Additionally, the data strongly indicates that the intervention is being implemented at a high level and to completion, with all training activities being offered and respondents rating the training as useful and informative.

As such, the data supports the notion that *Empowering Families* has been well implemented with high fidelity. Additionally, the intervention appears to be positively promoting parental engagement and developmentally appropriate interactions across multiple participant types. Future analyses will explore these relations further.

Kindergarten Outcomes Analyses and Results

To further test the impact of the *Empowering Families*, direct assessments were conducted with Kindergarten children for Cohort 3. Two groups of children were assessed: children whose teachers were part of the Cohort 3 year intervention and children whose teachers will be part of the Cohort 4 intervention (had not yet received the Empowering Families Intervention). As such, the children from Cohort 4 classrooms/teachers, serve as a control group for this portion of the study. Twelve teachers/classrooms across 6 schools comprised the treatment group and twelve teachers/classrooms across 6 schools defined the control group of teachers. Within each classroom, approximately 12 children were randomly selected for assessment, split by gender.

The following analyses contain the results of a series of Hierarchical Linear Models (HLM) that were conducted to evaluate the link between teacher participation in the *Empowering Families* intervention and growth in Kindergartners' Socioemotional functioning (Devereux Student

Strengths Assessment (DESSA), Achievement (Peabody Picture Vocabulary Scale scores (PPVT), and Executive Functioning (Spoon Tap).

Measures

A series of covariates were included in the HLM models due to their associations with Socioemotional functioning, Achievement, and Executive functioning in prior literature. For children, measures of child gender (1=female), age in months, time between pre- and post-survey assessments (in months) and whether the home language was Spanish or English (1=Spanish) were included. For teachers, covariates included the number of years the teacher had taught at the school, number of years of teaching experience, and whether the teacher had a Master's degree (1=Has Master's Degree).

Children's Socioemotional functioning was assessed using the DESSA, which is comprised of four subscales (Skills for Learning, Empathy, Emotional Management, Problem Solving) as well as a fifth composite scale, which aggregates the results of the four subscales. Achievement was assessed using the Peabody Picture Vocabulary Test (PPVT) and Executive Functioning was assessed with the Spoon Tapping Task.

Sample Description

To begin analyses, a review of children in the analytic sample whose parents participated in *Empowering Families* was conducted. Two children in the treatment group had parents who were part of the parent intervention of *Empowering Families*. To reduce contamination and potential bias, these two children were removed from the sample. Next analyses were conducted to establish baseline equivalent samples for the treatment and control groups. An important consideration when comparing gains over time is the fact that children in different groups may start at different points; those different starting points may be associated with different growth trajectories (change over time). As a result, baseline equivalency is critical to determining differences in gains among distinctive groups. For this study, pre-test scores on all measures were compared for children in the treatment versus control group. To produce comparison groups that were within 0.25 standard deviations of one another — the limit for pre-intervention differences under What Works Clearinghouse standards when statistical controls are used — children who were outliers across the measures were removed from the sample.

As such, the analytic sample was comprised of 276 students from 12 schools in the Providence school district, across 24 teachers. Six of the schools, representing 12 teachers, received the *Empowering Families* Intervention and six of the schools, including 12 teachers, were in the control group and did not receive the intervention. The sample was evenly split across genders (51% female). At the time of the pre-survey, children were, on average 68.01 (SD=3.94) months old (approximately 5.7 years). The average time between assessments was 6.33 (SD=.23) months.

Teachers had been at their schools for an average of 10.74 (SD=8.07) years, and had an average of 22.79 (SD=7.90) years of teaching experience. The majority (54%) of teachers had Master's degrees.

Table 1 provides descriptive statistics for all variables included in the HLM models. 3

Table 1. Descriptive Statistics

Variable	Mean (SD)
Teacher	
Years at School	10.74 (8.07)
Years Experience	22.79 (7.90)
Pre-Outcomes	
DESSA: Skills for Learning	49.74 (9.81)
DESSA: Empathy	48.79 (9.19)
DESSA: Emotional Management	50.26 (8.65)
DESSA: Problem Solving	49.43 (9.18)
DESSA: Composite	49.53 (9.04)
PPVT	95.7 (16.94)
Spoon Tap	12.44
Post-Outcomes	
DESSA: Skills for Learning	52.76 (10.82)
DESSA: Empathy	52.72 (10.69)
DESSA: Emotional Management	54.15 (10.61)
DESSA: Problem Solving	52.37 (10.59)
DESSA: Composite	53.09 (10.41)
PPVT	98.3 (15.49)
Spoon Tap	14.47 (2.11)

Missing Data

There were no missing data on any of the child or teacher covariates. Two children did not have post-survey DESSA scores, 19 children did not have post-survey PPVT scores, and 24 children did not have post-survey Spoon Tap scores. Given that only two children did not have post-survey DESSA data, testing of statistical differences between children with and without DESSA scores were not pursued. When comparing 1. Children with and without PPVT scores and 2. Children with and without Spoon Tap scores, there were no statistically significant differences in regard to any of the child or teacher covariates. As such, missing data were handled using listwise deletion.

Analysis Plan

The current data contains clusters of observations (students are clustered within teachers) – a data attribute that violates the assumption of independence of observations and increases the risk of generating biased standard errors when conducting an Ordinary Least Squares (OLS) regression. As such, these data were analyzed using Hierarchical Linear Models (HLM) with children (level 1) nested within teachers (level 2). The use of HLM models allows analysts to generate standard errors that are robust to violations of assumptions of independence.

The relationship between treatment group status and each of the seven outcomes was assessed using an analytical model that contained a dichotomous indicator of treatment or control group status, children’s pre-survey lagged outcome scores, four child covariates (gender, age, home language, time between assessments), and three teacher covariates (years at the school, years of experience, and whether the teacher had a Master’s degree).

Initial null models (containing no independent variables) were used to generate Intra Class Correlation Coefficients (ICCs). The ICCs provide an estimate of the amount of variance in the dependent variable that is found at level 2 of the HLM model. Estimates of ICCs ranged from .045 (Spoon Tap) to .30 (DESSA: Emotional Management).

Results

Before the final analytical models were analyzed, a model that contained only children's lagged pre-survey outcome scores and the dichotomous indicator of treatment group status was run for each of the seven outcomes. In these initial models, treatment group status was not a significant predictor of any of the seven outcomes, suggesting that even before controlling for child and teacher covariates, there were no significant differences between the treatment and control groups in relation to Socioemotional functioning, Achievement, or Executive functioning.

Results of the final analytical model, which incorporated all child and teacher covariates, suggested there was no relationship between teachers' participation in the Empowering Families Intervention and children's growth in Socioemotional functioning, Achievement, or Executive functioning skills. Given that PPVT scores are normed for age, children's age was not included in the model predicting PPVT. For all outcomes, children's pre-survey lagged outcome scores as well as being female significantly predicted growth in Socioemotional functioning, Achievement, and Executive functioning.

Interestingly, there was a negative relationship between the number of years a teacher had taught at the school and DESSA: Skills for Learning scores. A similar negative relationship was found between teachers' years of experience and students PPVT scores, suggesting that students who had teachers with more experience demonstrated less growth in PPVT than students whose teachers had fewer years of experience. Given that schools often attempt to create a fit between a child's needs and a teacher's strengths when determining Kindergarten placements, it is difficult to discern whether these particular results represent stand-alone findings or whether students who are less likely to demonstrate growth in Socioemotional functioning, Achievement, and Executive functioning also tend to be placed with teachers with more years at a school and more teaching experience. Table 2 provides the complete results of the seven analytical models.

Table 2. Results of the Analytical Model

	β (SE)						
Treatment Group	-1.952 (2.039)	-3.402 (2.451)	-4.551 (2.535)	-2.475 (2.218)	-3.283 (2.264)	0.300 (1.265)	0.058 (0.340)
Pre-Survey Lagged Score	0.755*** (0.046)	0.644*** (0.056)	0.652*** (0.055)	0.746*** (0.048)	0.748*** (0.048)	0.756*** (0.032)	0.212*** (0.031)
Female	1.584* (0.861)	2.853*** (0.877)	2.632*** (0.860)	2.703*** (0.815)	2.273*** (0.784)	-1.008 (1.029)	-0.007 (0.244)
Child Age in Months	0.087 (0.110)	0.172 (0.114)	0.161 (0.111)	0.142 (0.104)	0.143 (0.100)	--	-0.043 (0.031)
Home Language	-0.560 (1.754)	-0.319 (1.798)	1.761 (1.777)	1.136 (1.665)	0.701 (1.600)	-2.888 (2.100)	-0.054 (0.533)

Time Between Assessments	-1.628 (3.839)	-2.493 (4.582)	-4.395 (4.755)	-2.671 (4.156)	-2.955 (4.244)	-1.556 (2.450)	0.129 (0.643)
Teacher - Years at School	-0.385** (0.187)	-0.224 (0.226)	-0.320 (0.231)	-0.356 (0.203)	-0.390 (0.207)	0.119 (0.116)	0.029 (0.031)
Teacher - Years Experience	0.180 (0.182)	0.164 (0.218)	0.119 (0.225)	0.179 (0.197)	0.208 (0.201)	-0.226** (0.114)	-0.012 (0.0302)
Teacher has Master's Degree	1.212 (2.133)	0.372 (2.551)	1.735 (2.648)	1.249 (2.311)	1.023 (2.361)	0.502 (1.394)	0.168 (0.360)
Intercept	19.98 (25.63)	24.57 (30.16)	37.36 (31.17)	20.70 (27.38)	23.90 (27.83)	42.68** (16.70)	13.76*** (4.695)
***p<.01 **p<.05							

Moderation Analyses

Two additional models tested whether the link between treatment group status and Socioemotional functioning, Achievement, and Executive functioning vary in relation to gender or age by adding (in separate models) interactions between gender and treatment group status and child age and treatment group status.

In the first model, which examined the potential moderating role of gender, there was a significant interaction between gender and treatment group status in the prediction of DESSA: Skills for Learning. The interaction suggested that girls whose teachers had enrolled in the Empowering Families Intervention demonstrated significantly more growth in DESSA: Skills for Learning than girls whose teachers were in the control group. The interaction between gender and treatment group status did not significantly predict any of the remaining dependent variables.

The second moderation model examined whether the effects of treatment group status varied in relation to children's age. None of the interactions between age and treatment group status were significant, suggesting that the link between treatment group status and growth in Socioemotional functioning, Achievement, and Executive functioning does not vary by age.

Conclusions

In all, the current analyses indicated that there is no significant association between teachers' enrollment in the *Empowering Families* Intervention and gains in children's Socioemotional functioning, Achievement, and Executive functioning. Although there was evidence suggesting that teachers' participation in the *Empowering Families* Intervention may be associated with gains in the DESSA: Skills for Learning scale for girls, when evaluated in the larger context of a preponderance of non-significant results, this single finding does not provide sufficient evidence to diminish the overall conclusion that the teacher participation in the *Empowering Families* Intervention is not significantly associated with gains in children's Socioemotional functioning,

Achievement, or Executive functioning at Kindergarten. It is important to note that the *Empowering Families* teacher intervention is limited to primarily to a few days of teacher training typically taken in the summer. Additionally, much of the school-wide intervention components were geared primarily to bridging the gap between parents and school, through the intervention school ambassadors. It is important to note that research has indicated that it is harder to for interventions to impact teachers with many years of teaching experience versus new relatively inexperienced teachers (Roberts & Love, 2011). As such the limited intervention and s coupled with the large of years of experience of teachers may account for the lack of evident impact on children outcomes as a result of teacher participation in *Empowering Families*.

Full Sample Analyses: Family Data K-3

Additionally, all family data cohorts were combined to assess the overall impact, to date, of the *Empowering Families* intervention on families. Across the sample, K-3 families showed a significant shift in attitudes toward parent modernity ($t=-8.91, p<.01$). Specifically, families expressed significantly less traditional/authoritarian values post intervention versus pre-intervention ($t=4.02, p<.01$). As noted above, *Empowering Families* supports a style of parenting more in-line with progressive attitudes; as such, this finding underscores the effectiveness of the intervention. Additionally, shift in attitudes were noted regarding the importance that families placed on their general involvement and engagement with their children's school (e.g., How important is it that you show interest in your child's school activities; How important is it that you keep close track of whether your child is behaving appropriately at school), with families placing greater importance post-training on their involvement in comparison to pre-training ($t=-3.54, 0<.01$).

Importantly, parents reported actual increased involvement post-intervention versus pre-intervention, when asked specifically about attendance at school functions, visits to the school and interactions with teachers ($t=-2.47, 0<.05$). Although the intervention cannot show causality, this finding does suggest a relationship between the intervention and a change in parental behavior regarding actual involvement with the school, which was a primary objective of the grant.

In terms of child outcomes, parents did report pre- and post-differences on child outcomes, as measured by the DESSA. Specifically, significant differences pre/post were noted in parental perceptions of children's empathy ($t=-3.88, p<.01$), problem solving ($t=8.56, p.<01$), and learning skills ($-7.34, p<.01$), as well as, on the DESSA developmental composite score ($-2.06, p<.05$). Again, the analyses cannot show causality but findings show a significant association between parental participation and parental-reported outcomes of children.

Full Sample Analyses Family Data Pre-K

Similar patterns were noted across the multiple cohorts for PreK families. Significant shifts were noted in the Parents Modernity scale, pre/post intervention, with significant differences on overall scores suggesting a change towards more modern attitudes toward parenting among the preK families ($t=-2.6, p<.01$). When examining the subscales, families expressed significantly

more modern attitudes towards parenting post intervention ($t=-3.6$, $p<.01$). Additionally, families expressed significantly stronger attitudes towards parental efficacy post intervention, regarding their abilities to support children academically (e.g., (I know how to help my child do well in school, I make a significant difference in my child's school performance; $t=-5.1$, $p<.01$). This is significant given that parental involvement at the earliest grades is believed to be an entry point to continued involvement throughout schooling (Governor's Commission on School Readiness, 2001). Additionally, families are considered a critical component to school transitions and the success of young children in school (Pianta et al., 1999). Similarly, preK parents expressed significant differences in parent activities related to learning and the importance placed on parental involvement and schooling post intervention. Specifically, parents expressed greater engagement in showing children that they like when their child engages in learning activities (e.g., asking for help, wants to learn to things, $t=-2.29$, $p<.01$). Additionally, parents placed greater importance on engagement and school activities overall (How important is it that...Your child does well in school?; That your child reads and looks at books?; That you talk with your child about things other than school on a regular basis?; $t= -2.3$, $p<.05$) as well as their own activities related to involvement with schooling (How important is it that you....Read to your child? Show interest in your child's school activities?; $t=-2.99$, $p<.01$).

In terms of child outcomes, like K-3 parents, preK parents also rated their children's development, as measured by the DECA, significantly higher post intervention ($t=-2.41$, $p<.05$). Again while the intervention cannot show causality, the intervention does appear to be significantly shifting parental views of their children's development post intervention.

Full Sample of Parents Pre and K-3

From Cohort 1 to Cohort 3, the survey has had modifications, with the addition of the Parental Modernity scale in the second year of the study. The study however, has included the Family School Partnership Lab Surveys of Parent Involvement Survey (Hoover & Dempsey, 2005) in all cohort years and across all ages of children. Pre/post comparisons were subsequently made for the entire sample of parents on those measures. Results indicated significant differences pre/post intervention regarding parental views of efficacy in their role promoting children's school performance (e.g., I know how to help my child do well in school; I have the skills to help out mat my child's school; $t=-3.5$, $p<.01$). Additionally, parents, overall, expressed significant differences pre/post in attitudes toward teaching children important skills for school (e.g., we will teach our child to work hard, to ask questions when he/she does not understand something; $t= -12.8$, $t<.01$). Also, there were significant difference noted on the overall score the Survey of Parent Involvement pre/post intervention, with parents expressing significantly more positive attitudes towards parent involvement and their role in involvement post intervention versus pre intervention ($t=-5.8$, $p<.01$).

Examining attitudes towards expressed in the Parental Modernity Scale for all parents across cohorts 2 &3, results indicated significant differences in overall scale scores ($t=8/9$, $p<.01$). Results also indicated that parents expressed significantly less authoritative/traditional views or parenting post intervention ($t=4.3$, $p<.01$).

Full Sample Analyses: Educators

For teachers that participated in Empowering Families, significant differences were noted pre-post in several areas. Educators placed on greater importance of parent involvement post-intervention versus pre-intervention ($t=4.23$, $p<.01$). Additionally, educators also scored significantly higher for developmentally appropriate beliefs on the *Teacher Beliefs and Practices Scale* post-intervention versus pre-intervention ($t=6.09$, $p<.01$). As such, there appears to be a significant relationship and positive relationship between participation in the intervention and educators' beliefs about child development and attitudes toward parent involvement.

Fidelity of the Implementation. Across the three cohorts, families averaged 13.4 hours of the 16 hours of the Empowering Families trainings and about 80% of teachers attended all hours of trainings. No significant differences were noted between cohorts for families and educators in terms of attendance hours. Across the various cohorts, training sessions were consistently run to completion and all training modules were completed. The training sessions overall were consistently viewed very favorably by participants. The vast majority (82%) of participants strongly agreed that they were able to understand the training. This is important given that the vast majority of the training was done in Spanish and that the level of education of participating families is quite low. Additionally, the vast majority strongly agreed (82%) that the training helped improve their skills and that they learned new information. As such, fidelity of the intervention is high for the study meets all fidelity criteria as outlined in the federal analysis plan.

Summary

To date, *Empowering Families* has been successfully implemented in the Providence Public Schools. The training protocol has been successfully completed in entirety across trainings for parents and teachers, including Spanish Trainings for non-English speaking families. Additionally, the attendance of participants has been consistently high, including the participation of primarily non-English speaking and low-income families. The vast majority of participant attended more than half of the available training hours. Importantly, participants consistently responded positively to the training sessions and reported gaining knowledge. This is reflected, in part, in the pre-post differences evident in the survey findings.

Educators report more developmentally appropriate beliefs and attitudes post intervention as well as stronger views regarding the importance of parental involvement. The greatest impact, however, appears to be on families. Families reported significantly more modern parental views and less traditional/authoritarian views post intervention. This was found across all cohorts as well as for the overall sample of parents.

Additionally, parents reported stronger views regarding the importance placed on general involvement and their children's involvement in school, as well as, engagement in significantly more parental-school activities post intervention. For preK parents as well as when examining

the entire sample, significant differences were noted in parental views of efficacy related to their abilities to help and support their children in school. This is important given the research that stresses the importance of parental involvement to children's overall academic success. As such, the intervention appears to be having a significant and positive impact on parents' views toward parental involvement, their perceptions of their own efficacy related to involvement and their behaviors related to school involvement.

Importantly, significant differences pre and post were noted in parental reports of child outcomes as measured by the DESSA (children K-3) and DECA (preK children). Although the study cannot show causality, this does highlight at least, a significant and positive change in parental perceptions of children's development.