

## RESEARCH ARTICLE

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# Testing Bronfenbrenner's theory of parent-program communication: Parental homework as a form of family involvement in early care and education

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Bronfenbrenner's theory predicts that children's development will be enhanced if parents and early care and education programs interact in concert, working in mutually reinforcing ways in both settings. A novel way of promoting this consistency was tested, homework given to preschool parents (to read to their children using the dialogical reading method). An earlier report found significant impacts of the parent homework intervention on children's language development. The current study looked inside that intervention, to see if the parents in the experimental group actually increased their overall amount or changed their type of parent involvement with the program, as compared to control group parents. Results show that the preschool parental homework led to a shift in the content of parent-teacher communications, significantly increasing the percentage of such communications that were about the specific child and ways of interacting with that child, as opposed to communications about the child care program in general. The findings suggest that parents can respond well to homework from their child care program, this homework can contribute to a shift in the nature of teacher-parent communications, and can have significant impacts on child development.

*Keywords:* parent involvement, homework, language development

The importance of parent involvement in early care and education programs has been assumed by practitioners since the 1960's when Head Start was created and made parent involvement a matter of policy (Zigler & Styfco, 2000). In a 1974 report for the federal government, Bronfenbrenner noted that the early childhood programs demonstrating positive longitudinal impacts on young children all included strong programs for the parents as well as for the child. He hypothesized their effects on child development might be as much indirect (by affecting the parents) as direct (upon the child). By 1984, the National Association for the Education of

Young Children had made parent involvement one of its criteria for national accreditation of child care programs (NAEYC, 2005).

Keating (1996) has pointed out that we can observe many different kinds of parent involvement in early care and education settings, so it has been hard to define what parent involvement really is, or specify which kinds are most important. For example, researchers have defined parent involvement in early care and education programs as communication between parents and caregivers (Owen, Ware, & Barfoot, 2000) or as parents volunteering in the classroom (Castro, Bryant, Peisner-Feinberg, & Skinner, 2004; U.S. DHHS, 1998). Researchers have nonetheless established a correlation between the quantity and quality of parent involvement in early childhood programs and children's cognitive and social developmental outcomes (Arnold, Zeljo, Doctoroff, & Ortiz, 2008; Fantuzzo, McWayne, Perry, & Childs, 2004; Smith & Hubbard, 1988) including some studies which have controlled for prior child and parent characteristics (Marcon, 1999; Miedel & Reynolds, 1999; Owen et al., 2000). Other studies have used longitudinal designs to show the predictive power of parent involvement on later school adjustment (Taylor & Machida, 1994). Stronger, experimental research designs conducted with Head Start populations (Fagan & Iglesias, 1999; Leik & Chalkley, 1990; Love et al., 2005) have established the causal effects of some forms of parent involvement on child outcomes.

In an extension of the Head Start intervention studies, the current authors tested the effects of parent involvement on child language outcomes in a sample of community child care programs (Kim & Riley, 2011). The form of parent involvement tested was somewhat unusual: homework given by the preschool teacher to the parent to use the interactive (dialogic) reading method at home with their child. In interactive book reading, the adult engages the child in thinking about the story, changing the child's role from audience to co-creator of the story (Lonigan & Whitehurst, 1998). Because the research team did not interact with the parents in the treatment group, but instead encouraged the intervention group teachers to use their usual methods of family involvement (e.g., parent meeting, parent education class, newsletter, pick-up or drop-off time conversation) to help parents begin using interactive reading at home, this study created an experimental test of Bronfenbrenner's hypothesis that parental involvement in child care programs should promote child development. The results showed broad impacts on four aspects of language and pre-literacy skills (receptive vocabulary, expressive vocabulary, print awareness, and taxonomy). The impacts of the six-week intervention continued to grow during the six-week follow-up phase, and represented substantial gains in practical terms: the treatment group children advanced 7 months ahead of control group children in their receptive vocabulary, and 9 months ahead in expressive vocabulary, in terms of developmental norms. But the earlier report had a missing link in its chain of causal logic: it failed to report whether the intervention led to changes in the presumed intervening processes of teacher-parent communications. The current study addresses this gap, investigating whether the parents increased their overall amount of involvement with their early care and education programs and whether the content of their communications with program staff changed.

## Theoretical Guidance

Theoretical guidance was provided by Bronfenbrenner, who not only posed the parent involvement hypothesis in his 1973 report to the federal government, but who later formalized it as an example of a mesosystem hypothesis within his bioecological systems theory

(Bronfenbrenner, 1979). In his theory, the Mesosystem is comprised of the connections between the immediate settings in the child's life, such as the connections between the home and the early care and education program. In other words, children's development is affected not only by interactions in the home, and interactions in the child care setting, but also by the linkages between these two settings. As Bronfenbrenner wrote in his Hypothesis 38, "The developmental potential of a mesosystem is enhanced to the extent that there exist indirect linkages between settings that encourage the growth of mutual trust, positive orientation, goal consensus, and a balance of power responsive to action in behalf of the developing person" (Bronfenbrenner, 1979: 216). If his hypothesis is true, then the types of parent involvement we should encourage are those types that increase consensus on goals concerning the child and opportunities for the parent (not just the child) to develop. In the earlier report (Kim & Riley, 2011), children's development of pre-literacy skills was selected as the outcome variable partly because it would be so highly motivating to most parents, leading to both high compliance with the homework assignments and increased interest in discussing the project with early childhood program staff (i.e. goal consensus). Bronfenbrenner also mentioned, "The family seems to be the most effective and economical system for fostering and sustaining the child's development. Without family involvement, intervention is likely to be unsuccessful, and what few effects are achieved are likely to disappear once the intervention is discontinued" (Bronfenbrenner, 1974). By nurturing the parents' role as co-teachers of their child's pre-literacy skills, this study also (in Bronfenbrenner's words) "shifted the balance of power," empowering the parent with new skills to help their child's growth.

A second source of theoretical guidance comes from a review of research on slightly older children. Epstein (1995) has summarized the research findings on parent involvement with school-age children and their schools. She defined six types of parent involvement with schools: parent-school communication, parental volunteering at school, parents helping children with homework, parental decision making about school issues, school workshops for parents, and parental links to community services through the school. The empirical studies of parent involvement during the school-age years have reported correlations between several types of parent involvement and students' school achievement (Epstein, 1991; Griffith, 1996; Sui-Chu & Willms, 1996). However, only one form of parent involvement has produced repeated evidence, from solid experimental designs (randomized trials), of causing gains in children's learning. That type of involvement has been parents helping their children learn at home (Cotton & Wikelund, 1989; Fishel & Ramirez, 2005). This includes parents' reading with children, helping with homework assignments, or tutoring children with teachers' instructions. Studies have also found that parents place high value on guidelines given to them by teachers, on how to help their children do homework (Corno, 2000; Dauber & Epstein, 1993; Hoover-Dempsey & Sandler, 1997; Sanders, Epstein, & Connors-Tadros, 1999), suggesting they would be receptive to the attempts of schools to involve them more in their children's homework.

Because preschoolers are too young to be given responsibility for homework, this type of parental involvement may seem impractical for the preschool years. But parents' assisting children's learning at home, through "homework" given to the parents, might be practical in the early childhood years. A few prior studies have supported this general idea. For example, the Family Development Research Program (Lally & Honig, 1977) is a comprehensive program to provide child care services (half-day or full-day) and home visiting services at the same time. Researchers found low-income parents to be receptive to a weekly book-lending service provided by home visitors, and the overall program led to gains in child development. Madden,

O'Hara and Levenstein (1984) also found that a series of 46 twice-weekly home visits, using a toy demonstration method of parental instruction, helped improve verbal interaction between mother and child. Similarly, the Home Instruction for Parents of Preschool Youngsters (HIPPY) program (Baker, Piotrkowski, & Brooks-Gunn, 1999) teaches and assigns specific parent-child activities, and has been delivered through early care and education programs. An experimental evaluation of HIPPY (Baker, Piotrkowski, & Brooks-Gunn, 1999) also showed that parent involvement resulted in better cognitive and educational outcomes in young children (4 and 5-year-old children). In contrast to these studies, the current study was not part of a larger, comprehensive intervention, but attempted to test just the parental homework component in early care and education settings for a short intervention period of six weeks.

## The Current Study

Prior research has tested interventions that either taught parents directly or included parent training as part of larger, more comprehensive programs. Studies have also shown the effectiveness of teaching parents to use the exact dialogic reading methods that are the core of the intervention in the current study (Lonigan & Whitehurst, 1998). What most distinguishes the current study from these earlier efforts is that the parent intervention in the current study was not delivered by the research or intervention staff, but by the staff of the early care and education programs, using their existing methods of parent involvement. In this way, it became an experimental test of one form of parent involvement in early childhood programs.

Having shown that the intervention led to gains in children's language development (Kim & Riley, 2011), we now ask what might be learned about the presumed mediator of that effect, changes in parent involvement. Did parent involvement increase in the intervention group? Specifically, we ask (1) did parents in the intervention group increase their amount of communication with the teachers and early childhood programs, as compared to control group parents?; (2) did the content of parents' communications with the teachers and programs differ in the treatment group, as compared to the control group parents?

## METHODS

Data on parent involvement were collected via questionnaire from parents, early childhood teachers, and program directors at pretest and post-test (6 weeks later) of a brief intervention study. No data on parent involvement were collected during the follow-up phase of the study. In addition, child care characteristics and family characteristics were collected at time 1, and used to show the equivalence of the treatment and control groups.

### Recruitment Process

A multi-stage random sampling method, combining cluster sampling with stratified sampling, was used in the current study. In the first stage, cluster sampling was employed to select all child care programs with more than 20 and less than 100 families in Madison, Wisconsin. In the second stage, stratified sampling was used to divide the population into a number of strata,

intended to make the sample as similar as possible to the characteristics of most child care programs in the U. S. Based on the modal family income of programs, profit or non-profit status, and accreditation or non-accreditation status (2 x 2 x 2), a sampling frame was created. The local Child Care Resource and Referral agency provided the list of all licensed child care programs in Madison and estimates of the modal family incomes served by programs, programs' profit or non-profit status and their city accreditation status for assignment to the sampling frame.

Although income and social class are frequently divided into five classes (Thompson and Hickey, 2005), child care programs for the current study were divided into just two groups: moderate income group (upper + upper middle class + lower middle class) and lower income group (working class + lower class). Regarding profit or non-profit status of child care programs, an estimated 60 percent of licensed centers in the U.S. are non-profit, and 40 percent are for-profit centers (Powell, & Steinberg, 2006). Finally, programs' accreditation (by either the national Association for the Education of Young Children, or by the city of Madison, which have comparable standards) was the third sampling stratum. According to the Wisconsin Council on Children & Families, as of 2008, less than 6% of licensed Wisconsin child care centers and family child care programs were accredited.

From the list of all licensed child care programs in the Madison, Wisconsin area, child care programs were assigned to a sampling frame according to their profit /non-profit status, their accreditation, and the modal SES of the families served, in an attempt to recruit a sample representative of community child care programs. The attained sample did not reach this goal, in particular because of difficulties in recruiting participation from programs serving primarily low income families. In all, 36 programs were contacted before 12 agreed to participate, a 35% participation rate.

After programs were randomly selected, programs matched within the sampling frame were randomly assigned to treatment or control conditions. In some cases, two smaller programs were matched with a larger program, to create more equal numbers of classrooms and children in the two groups. The treatment and control groups were compared for equivalence, using 10 child and family characteristics, four language development pretest scores, and seven characteristics of the programs and lead teachers. On no variable did the two groups differ ( $p < .10$ ). The recruitment of teachers, families, and children followed the recruitment of programs.

For this study, target children were defined as all children from 2.5 to 3.5 years old, with English as their first language, and with no diagnosed, language-related disabilities. The number of target children per program varied from 4 to 20. All teachers of eligible children agreed to participate, and were then asked to recruit parents with eligible children (using materials approved by a university IRB). Among 95 eligible children, 87 families consented to participate in the research (54 children from the treatment group, and 34 from the control group), a 91% response rate (parents in the control group tended to participate less in the research). Of those 87 children, three children were un-testable because of language delay (one from treatment and two from control) and four children refused to participate in the language testing (one from treatment and three from control group). Therefore, a total of 81 children and families participated in this research project (see table 1).

TABLE 1  
Sampling frame for Early Care and Education Program

Sampling Frame	Treatment Group	Control Group	Total
Low SES/ Non-Profit/ Not Accredited	1 program 14 children	1 program 7 children	2 programs 21 children
Moderate SES/ Non-profit/ Not Accredited	2 programs 12 children	1 program 5 children	3 programs 17 children
Moderate SES/ For profit/ Not Accredited	2 programs 8 children	1 program 4 children	3 programs 12 children
Moderate SES/ Non-profit/ Accredited	2 programs 18 children	2 programs 13 children	4 programs 31 children
Totals	7 programs 52 children	5 programs 29 children	12 programs 81 children

*Child care programs.* All sampled child care centers were licensed and located in a medium sized Midwestern city (Madison, Wisconsin). The participating centers ranged in capacity from 15 to 100 children, and employed between 4 and 12 lead teachers. The median program had six teachers, of whom two had greater than 10 years of experience, and three held a 4-year college degree. Lead teachers' highest hourly wage averaged \$16.53 per hour in 2009 (range \$11 ~ \$24.48) and their mean beginning hourly wage was \$11.08 per hour (range \$8 ~ \$15). The mean turnover rate of teachers in the child care programs was 19% in the previous year, ranging from 0% to 60%.

*Families and children.* All parents of target-age children were invited to participate, and 91% agreed. The children were largely from households of married parents (86%). Parents' education ranged from "some high school, but didn't finish" to a "graduate degree," with a median educational level of a "4-year college degree". Annual household incomes ranged from under \$10,000 to over \$100,000, with the median annual income under \$20,000 (in 2009). Questions about pre-existing family literacy activities found large variations among families, with the average family engaging in several literacy activities each week, for example reading a picture book with their child, singing rhymes to their child, or going to the library with their child. Of the 81 children, 45% were boys, 75% were Euro-American, and participating children's ages ranged from 27 months to 46 months at the start of the study. Data were collected from 81 children at time 1, and 74 children at time 2 (4 children left centers and 3 children refused to take more language tests).

## Measures

*Frequency of parent-program communications.* Parents in both groups were asked "How often do you talk with your child's teachers about your child or the child care program?," and "How often do you talk with the center director?" Teacher questionnaires included two similar items: "How often do you send a note (memo or email) to a parent in your classroom?" and "How often do you talk with parents in your classrooms about their child or the classroom?"

For all these items, the same five response categories were provided, ranging from (1) Once per month or less, to (5) Every day.

*Content of parent-program communication.* Following the above items, teachers were provided space to write in answers to the following two questions: “What kind of information is usually included in the note?,” and “What do you usually talk about?” In addition, director interviews were conducted at the 12 sites about parent involvement strategies. Content analysis was performed to indicate the presence or absence of eight types of communication content in each teacher’s written response. These eight content types were children’s day at the center (every child), reminder (what to bring), information about child care programs (any events or change) and class activity in general, behavior or development of a specific child, concern about a specific child, parenting tips for a specific child, and information about lesson plan (for a specific child). For each type of communication (notes or personal conversation), the first four types of content were combined into an overall measure of information about the child care program/classroom. The remaining four content types were combined into an overall measure of information about the specific child (e.g. the child’s behavior or accomplishments). These two measures were calculated as the percentage of the four specific information types mentioned by the teacher, separately for notes and in-person conversations.

## The Parent Involvement Intervention

In contrast to most prior interventions, care was taken in this study to insure that parent involvement was promoted only by the existing early childhood program staff. The research and intervention staff had no contact with the parents. In this way, the results of the intervention can be associated with the efforts of the early childhood teachers and directors to increase parent involvement.

The teachers and directors of all sampled programs were given a one-hour workshop on children’s language development, including the dialogic reading method, and were provided with an appropriate book to read to their classes for each of the next six weeks. All teachers in treatment and control groups were trained to read books using dialogic reading method in the classroom and they all used the same book that the intervention parents used every week, so the only difference between the two groups was the involvement of parents in book reading at home in the treatment group. The staff in the intervention group were given an additional 30-minute session, at the end of the workshop, on the topic of parent involvement. In this session, participating staff discussed their current methods of parent involvement, and how they might recruit their classroom parents to read to their children at home using the dialogic reading method. These programs were also provided with book bags to give the parents each week, containing a picture book and a guide sheet on reading it using the dialogic reading method. The one-hour workshop on language development included about 30 minutes of explanation, modeling, and behavioral practice of dialogic reading, which is considerably less training that has been provided in earlier intervention studies. This brevity was largely a practical requirement of working within existing time limits of the program staff meetings. The intervention was aided by every program having one or more staff with pre-existing knowledge or even practice of dialogic reading, who were able to model the practice for other staff.

This particular topic of homework was selected because parents are highly motivated to help their child learn to read, the dialogic reading method is proven effective and can be taught by teachers to parents, and this homework gives the parents a strong role as their child's first teacher. In fact, the parents are asked to do at home exactly what the teachers are doing in the classroom, so the parent and teacher have a joint project on which they are cooperating and about which they can talk.

## RESULTS

### Amount of Parent-Program Communications

Would the intervention lead to greater amounts of overall parent involvement with the program, or different qualities of involvement, as compared to the control group? To answer this question, parents and teachers were asked about the frequency and types of parent involvement they experienced in the preceding week, following the six weeks of the intervention.

Parents from all 12 child care programs (both treatment and control group) answered questions about their frequency of communicating with teachers and with directors (e.g., "How often do you talk with your child's teachers about your child or the child care program?"). These communications showed no difference between treatment and control group at post-test. The modal response for both groups was communication with teachers "every day," and with program directors "several times each month."

The 18 lead teachers (from both treatment and control group) completed a questionnaire at post-test asking their frequency of sending notes to parents (memo or email) and frequency and timing of verbal communication with parents. There were no significant differences found in the frequency of sending notes and verbal communication. No significant differences in when parents and teacher communicate were found either. Because of the small number of teachers in each group, the treatment and control groups were compared using the Mann-Whitney U- test.

### Content of Parent-Program Communications

While frequency of communication did not differ between groups, differences were found in the types of information communicated in recent notes and verbal communications. Because of the small number of teachers in each group, teacher communications with parents in the treatment and control groups were compared using the Mann-Whitney U- test. Treatment and control group teachers did not differ in their communication (by notes or conversation) of information about the child care program. The test and control groups did, however, differ on the amount of their communications about the specific child (for notes, Mann-Whitney  $U = 6.5$ ,  $n_t = 11$ ;  $n_c = 7$ ,  $p < .01$  two-tailed; for personal conversation, Mann-Whitney  $U = 17$ ,  $n_t = 11$ ;  $n_c = 7$ ,  $p < .05$  two-tailed). In the treatment group, the median teacher reported one of the four types of communications about the specific child, while the median for the control group was zero. For face-to-face oral communications, the median teacher in the treatment group mentioned two types of child-specific communications, while the median control group teacher mentioned one. From their written reports, teachers in the treatment group were statistically significantly more likely than those in the control group to send notes home, and to talk with the parent directly,



about more aspects of the specific child's progress in behaviors or development, concerns about child's health or behavior and parenting tips.

According to directors in all participating centers, newsletters and bulletin boards were commonly used by nearly all programs. All 12 centers sent regular newsletters to parents, with nine centers sending newsletters every month, one center every week, and two smaller centers sending them irregularly. At some centers, the individual classrooms also sent home newsletters. All centers except one had bulletin boards for parents. Bulletin boards mostly contained information about center licensure, the monthly schedule, parenting information, and the lunch and snack menu. No other parent involvement strategies were reported by directors at the 12 centers.

Anecdotally, a teacher and director from the treatment group reported that the intervention had led to improvement of the parent-center relationship that had lasted for several months after the intervention. One teacher said that she could see the difference between parents who participated in the study and those from classrooms not participating (only classrooms with 2.5~3.5 year-old children participated in the study). The biggest difference was that parents who were in the study were more willing to be actively involved in several kinds of events and activities in the center, and they were more cooperative with teachers and directors.

In summary, weekly, direct observation in the treatment group programs confirmed that programs encouraged parents to participate in the tested form of involvement, and parents did take the weekly home-reading materials home. Questionnaire items measuring the amount of parent involvement produced no differences between the treatment and control group, contrary to expectation. However, teachers in the treatment group reported somewhat different content of communications with parents, with a greater emphasis on the individual child's development.

## DISCUSSION

The intervention tested here was a workshop delivered to early childhood teachers, encouraging them to explain the dialogic reading method to their parents and to give them interactive homework to read to their child every day using the dialogic reading method. Because the earlier analysis from this study found a significant impact of the intervention upon child language outcomes, and because the intervention was designed to work by creating communication between the teachers and parents, we expected to see dramatic differences in the amount of parent-program communications. But this was not found. At the end of the 6 week intervention phase, no differences were found between the treatment and control groups in the amount of teacher parent communications reported by teachers, directors or parents.

But teachers in the treatment group did report somewhat different content of communications with parents, with a greater emphasis on children's individual development. While not a single control group teacher reported any written communication (notes sent home) about the specific child, the median note sent home by treatment group teachers was reported to contain this kind of child-specific communication. Similarly, in face-to-face communications, which occurred on average every day in both groups, the median treatment group teacher mentioned twice as many types of specific information about the child than did the median control group teacher. That parents and teachers talked more about the specific child is not entirely surprising, because the homework assignment gave the two adults a joint project on which to work, each in their own setting, but with the same child. This daily interaction of the

teacher and parent is likely to be the explanation for how the dialogic reading intervention worked. Other studies have given parents much better organized training on dialogic reading (in this study, each program communicated with parents in their own way, sometimes offering a workshop on the topic, in other cases just talking about it at drop-off and pick-up time and in written communications). But a single workshop, or even a series of workshops delivered by a professional trainer might be less effective than a continuing, every day conversation on the topic with an adult who you already know and trust. According to Dauber and Epstein (1993), parents of slightly older (school-age) children tend to be more involved at school and at home when the schools strongly encourage parent involvement (i.e., how to help their children at home). Further, Van Voorhis (2001) showed that well-designed, teacher-generated homework assignments in science followed with specific instruments helped middle-school students practice skills and improved parent-child relationship but also developed better parent-teacher communication. Parents and teachers in early care and education settings may similarly show effective parent-teacher communication which will help improve children's development, as a byproduct of homework assignments to parents. Parents might feel more comfortable communicating with teachers when early childhood programs make efforts to invite their participation in joint efforts concerning their child. According to Carlisle, Stanley and Kemple (2005), teachers' and schools' expectations toward families are key factors influencing parent involvement.

More surprising was that the child-specific content of their communications appeared to spread from discussions of the book reading activity to other aspects of child development and parenting, including for example issues of child health and social behavior. This suggests a hypothesis that once communications between teacher and parent move from general program information (e.g., what the class did that day) to conversations about the specific child (e.g., the child's excited use of a new word), then child-specific conversations will spread to other aspects of child development and adult-child relationships, as the teacher and parent increasingly view each other as partners in child development.

Communications that are individualized, of course, are exactly the type with the greatest potential to change parenting behaviors and affect individual child development. Individualized communications, as opposed to group communications about the overall classroom or program, will have the greatest potential to contribute to the seven components of high quality parent-teacher relationships proposed by Barbain (2000): satisfying to the parent, warm emotional tone, exhibiting and promoting trust, clear (specific and concrete), creating agreement, appreciation, and parent support and cooperation. In early care and education settings, open and continuous parent-staff communication is essential because it helps encourage continuities between parents and staff (Powell, 1980). Communication between parent and teachers has been identified as a key feature of high-quality child care programs by both parents and teachers (Ghazvini & Readdick, 1994; Kontos, Howes, Shinn, & Galinsky, 1995). Bronfenbrenner (1979, 1986) also proposed the benefits of frequent and personal communication between parents and teachers, with emphasis on direct personal communication as the most effective in building supportive connections. One interpretation of the current findings is that parent-teacher communication can be improved and made more effective without increasing its frequency, but by changing its content. Parent involvement activities may not need to be more time consuming, if they are more informative about the specific child.

Earlier research has observed the daily rituals of drop-off and pick-up of the child, finding that about two-thirds of these everyday transition times included some staff-parent, face-to-face communication (Endsley & Minish, 1991). And what did they talk about in these fleeting

conversations? In this earlier study, about half the conversations were more than just routine greetings and in many cases were about the specific child. It is possible that by providing a joint project for the teacher and parent (both reading the same children's book to the child that week), the current intervention may have changed these transition time conversations to greater communication about the specific child, and the joint task of interacting with that child to promote language development. In concrete terms, teachers could ask the parents if they remembered to read that week's book at home, and they could share stories about the child's current capabilities and reactions. In this way, the teacher and parent are encouraged to compare notes on how they each interact with the child when doing the same activity, exactly the kind of daily discussion that is most likely to encourage conscious experimentation and development of parenting skills by the parent.

The intervention did not ask early care and education programs to use standard or consistent methods of communication with parents, but instead encouraged each to use their existing methods. This reduced the amount of experimental control by the researchers, which is usually thought of as methodological weakness. The methods of "parent involvement" varied from program to program. On the other hand, by allowing child care programs to use their existing methods of communicating with parents, this part of the research design increased the likelihood that the findings reflect existing rather than ideal conditions, and increased the ease of future dissemination of the intervention. In addition, it is possible that providing more independence to teachers and program directors could be part of the explanation for the high participation rate of eligible families, as well as the strong effects on child language development. In an echo of Bronfenbrenner's conjectures about balance of power and goal consensus in mesosystems, the researchers presented this study to the child care staff as a partnership in which both researchers and teachers contributed their own expertise, and in most cases the child care staff took responsibility and an apparent sense of ownership for the intervention. Indeed, in personal communications with intervention group teachers and directors during and after the intervention, many spontaneously reported their intention to make homework for parents into a continuing part of their child care programs.

In Bronfenbrenner's terms, we should look to the proximal processes within settings to explain developmental effects. In the current study the ongoing, daily interactions of the child care teacher with the parent were the proximal process carrying the intervention forward. By utilizing this existing relationship, the intervention may have generated more of the mutual trust and goal consensus that Bronfenbrenner considered key. The success of the intervention hinged on the parents complying with the request to do homework with their child, and this compliance was likely increased because the request came from within an existing relationship with the teacher (rather than from the researchers or professional trainers).

## Limitations

Any conclusions from this study must be tempered by its limitations. The data currently reported are from weak measures, in many cases single-item self-reports of unknown validity. Especially no differences were found between the treatment and control groups in the amount of teacher-parent communications reported by teachers or parents. This was unexpected, and could be due to weak measurement. On the other hand, it is possible that treatment group teachers

really did not increase their amount of communications with parents, but simply changed their ongoing communications so they were more about the specific child and parent.

The difficulty in recruiting programs serving primarily low income families suggests the findings are less likely to generalize to this population. A longer follow-up phase before the final data collection could have removed some doubt that the findings will not soon wash out (immediate gains in the content of parent-teacher communication for treatment group teachers may be transitory). While these limitations are serious, the study is strengthened by the consistency of its findings with prior theory and research.

Finally, this study of parent involvement and parent-teacher communication collected data mostly from teachers. The addition of data reflecting the parents' side of the story could have provided a different and more detailed picture.

## Implications for Practice

Practitioners in the early care and education field may notice the potential of applying the parent homework idea to other domains of child development. Consider the potential for parents to be given homework assignments to play specific games at home involving impulse control (for example, red light/green light games, or games requiring a child to slow down and speed up their movements), during the same weeks this aspect of children's self regulation is being emphasized in the early care and education program. Similarly, homework could easily be given instructing parents in common activities with which to teach children at home, during the same week as at school, about one-to-one correspondence, the stable order principle, and the cardinality principle (i.e., the three essential principles for an understanding of number). For example, these principles can be practiced and learned at home while setting the dinner table, counting the family members, the plates, the forks, etc. The development and testing of such homework materials represents a ripe opening for collaboration between scholars and practitioners.

The current findings also have implications for researchers and practitioners in the field of parent education. If the parent homework intervention is conceptualized as a form of parent education, then the findings reported here are as promising as they are unusual. Indeed, we know of no other group parenting interventions of short duration (six weeks) that have demonstrated a significant impact not just on parents, but on objective measures of their child's development. With out-of-home care of preschoolers having become the norm in industrialized societies, we might begin to conceptualize the early care and education program as the most widespread institution providing childrearing education to parents. There would be some irony in this, since many child care staff view the child alone, and not the family, as their domain of interest and expertise (Hamilton, Roach, & Riley, 2003). The moderate to large effect sizes found for this intervention (author self-reference) are unusual enough to beg explanation, and we suggest one hypothesis for the parent education field that parent education programs delivered through existing relationships and settings in the parent's life, characterized by trust and daily interactions, are more likely to be effective than interventions based on a new relationship or new setting. Instead of inventing a new setting called "a parenting education workshop," we might be more effective by modifying the functioning of existing settings in the parent's life. In a roundabout way, the current study validates the commitment to parent education written into Project Head Start at its birth, and the inclusion of family-centered practices in the criteria for accreditation by the National Association for the Education of Young Children

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