

Parent Involvement in Preschool: Predictors and the Relation of Involvement to Preliteracy Development

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Abstract. The present study examined the relation between parent involvement in preschool and children's preliteracy skills. It also examined socioeconomic status (SES), parent depression, and single-parent status as predictors of parent involvement. Participants were 163 preschool-aged children from mostly low-income families, their parents, and their teachers. Teachers rated parent involvement, and preliteracy skills were assessed with standardized tests. Greater parent involvement was associated with stronger preliteracy skills. SES was positively associated with involvement, although involvement still predicted preliteracy development controlling for SES. No significant relation was found between depression and parent involvement. Single-parent status was associated with less involvement, and data were consistent with single-parent status partially mediating the relation between SES and involvement. These findings extend work with older children, and provide a step toward understanding possible mechanisms in the relation between SES and parent involvement.

A substantial body of work in school-aged children has established a relation between parent involvement in children's schooling and children's academic achievement. In contrast, there is much less research about parent involvement in preschool,¹ and little is known about factors that influence the earliest stages of parent involvement. The introduction to this article first provides a brief overview of research on the relation between

involvement and academic development with older children. It is then argued that more research is needed on this relation in preschool, given the importance of emergent academic development at this age. Empirical data on the relation between involvement and achievement in preschool are reviewed, and reasons for the likely importance of preschool involvement are presented. Finally, it is asserted that more research is needed on the

This study was supported by grants to David Arnold from the National Institute of Mental Health (R29 MH55088–01A1) and from the William T. Grant Foundation. We thank the children, parents, and teachers who participated in this project, and the graduate students of the Preschool Project for their work collecting data. Greta Doctoroff is now at Yeshiva University.

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effects and predictors of early involvement, and the relevance of these issues for school psychologists is described. The current study, which takes a step toward addressing this gap in the research literature, is then presented.

Parent Involvement and Grade School Achievement

Parent involvement in children's schooling predicts academic achievement from kindergarten through high school (i.e., 5–18 years). The research establishing this relation in elementary school and beyond is substantial. For example, Jimerson, Egeland, and Teo (1999) showed that parent involvement in the first 3 years of children's formal schooling predicted upward changes in achievement trajectories through sixth grade, based on information provided by teachers about the amount of teacher–parent contact. Similarly, Izzo, Weissberg, Kasprow, and Fendrich (1999) assessed parent involvement in kindergarten using teachers' reports about four aspects of parent involvement (number of contacts, quality of interactions, participation in school activities, and home activities). Each aspect was assessed with one item, on a scale appropriate to the content. Involvement predicted children's later academic achievement.

A large study by Reynolds, Ou, and Topitzes (2004) established links between involvement and achievement in early elementary school, in children ages 8–12 years. In this study, dichotomous ratings of general involvement (average or better versus below average) from both parents and teachers were summed across each year of the study. Grolnick and Slowiaczek (1994) showed that parent involvement in Grades 6–8 predicted students' achievement, using aggregate measures of involvement from student, parent, and child questionnaires (5, 16, and 16 items on 3-, 4-, and 5-point Likert scales, respectively). The items used in this assessment focused on specific parent behaviors and attendance at school functions. Finally, in a study of high school students, Bogenschneider (1997) found that students' grade point averages were pre-

dicted by their perceptions of their parents' involvement in school activities, on a 5-item scale (attend school programs; watch students in activities; help choose courses; help with homework; monitor school progress), with each item scored as *never*, *seldom*, or *usually*.

Research establishing a relation between involvement and achievement across elementary school is robust across methodologies and measurement approaches. As described, convergent evidence comes from multiple informants, including teachers, children, and parents. Longitudinal studies provide support for the lasting effects of involvement. There is also some suggestive experimental evidence for the importance of parental involvement among grade-school children, although some methodological issues limit this literature (Fishel & Ramirez, 2005). Nevertheless, in sum, a strong research literature has established parent involvement as an important factor in grade-school children's development. Much less is known, however, about involvement in preschool.

Parent Involvement and Preschoolers' Development

Parent involvement is widely believed to be critical to children's early academic development (Children's Aid Society, 2003; Edutopia, 2000). For example, fostering parent involvement is a central goal of the U.S. Department of Education (Fantuzzo, Doll, Greenfield, & Slaughter-Defoe, 1999), and is a philosophical cornerstone of Head Start (Administration for Children and Families, 2006). Given the common assumption that involvement is important, astonishingly few studies have evaluated the relation between parent involvement in preschool and children's emergent academic development. More than a decade ago, White, Taylor, and Moss (1992) challenged the empirical basis behind the assumption that parent involvement in early intervention is important, and this challenge has gone largely unaddressed. Similarly, the role of parent involvement in preschool needs to be

better understood, given the importance of the earliest stages of academic development.

The Importance of Emergent Academic Development

Learning to read is a cumulative process that begins very early. Language development, knowledge of letters and print, and phonemic awareness are specific aspects of emergent literacy that serve as the foundation for later reading (Adams, 1990; National Research Council, 1998; Schatschneider, Fletcher, Francis, Carlson, & Foorman, 2004; Whitehurst & Lonigan, 1998). For example, one study found that the number of letters known at kindergarten entry correlated .52 with reading achievement in high school (Stevenson & Newman, 1986), and these skills at preschool predict grade school reading, even controlling for IQ (Scarborough, 1989). These skills begin developing before formal schooling, even in day care settings that do not explicitly focus on literacy skill development. For instance, language development may be fostered in classroom discussions and activities, and shared storybook reading fosters knowledge of print and letters. In sum, children's preschool experiences can build a foundation on which to build later academic success. However, surprisingly little is known about how parent involvement in preschool influences this early academic development.

Empirical Studies on Preschool Involvement and Emergent Academic Development

A review of the literature on the relationship between parent involvement in preschool and emergent academic development was conducted. Within PsychInfo and ERIC, the search term *parent involvement* and then the search term *family involvement* were each crossed with the terms *preschool*, *day care*, *prekindergarten*, and *early education*. All resulting studies in peer-reviewed journals were then examined to determine if they evaluated the relationship between parent involvement and academic, preliteracy, or language devel-

opment in preschool-aged children. Studies of parent participation in specific early intervention projects (e.g., Fast Track) were not included because the question of this article regards general child care settings. The literature on attrition and/or participation in intervention projects addresses a different, albeit equally important question. All populations in general care settings were considered. This review uncovered only four studies that have directly examined the relation between parent involvement in preschool and children's emergent academic development. Although it cannot be conclusively stated that all studies were found, some convergent evidence for the completeness of the search was found in the fact that none of these studies cited any others. These four studies found mixed results, and they have important methodological limitations.

In the largest evaluation of the relation between parent involvement and preschoolers' academic development, Marcon (1999) examined parent involvement among the parents of 708 predominately low-income 4-year-olds. Teacher ratings of parent involvement were assessed with four, yes-no items regarding categories of contact (parent-teacher conference, home visit by teacher, extended class visit by parent, and helping with class activity), which were then translated into low, median, or high involvement. Involvement level was shown to be related to teacher ratings of children's language development and emergent academic skills. Taylor and Machida (1994) examined teacher ratings of Head Start children on the Developmental Indicators for the Assessment of Learning—Revised (DIAL-R), a broad instrument that assesses motor, conceptual, and language skills. They found a moderate relation between DIAL-R scores and teacher ratings of parent participation on 5 items (volunteers in the classroom; attends parent meetings; responds to requests for information; works in classroom; and follows through with activities suggested by the teacher), each rated on a 5-point Likert scale. Both of these studies are limited, however, by shared method variance, because teachers rated both involvement and development. That

is, because teachers were rating children both on their academic skills and on their parents' involvement, general feelings about a child could affect both ratings, and inflate estimates of the relation between these constructs.

Only two studies were found that evaluated involvement and academic development independently in preschoolers. Mantzicopoulos (1997) assessed Head Start children with the Kaufman Assessment Battery for Children (K-ABC), a standardized measure of achievement. She found that K-ABC scores were not related to teacher ratings on a single-item question that assessed parents' overall involvement on a 6-point Likert scale. Fantuzzo, McWayne, Perry, and Childs (2004) examined parent ratings of involvement in Head Start on a multidimensional scale consisting of 42 Likert items that measure school-based involvement, home-based involvement strategies, and conferencing. They found a strong association between home-based involvement strategies and children's receptive vocabulary skills, as measured by the Peabody Picture Vocabulary Test—Third Edition. In sum, evidence regarding the relation between involvement and achievement in preschool is limited.

Theoretical and Indirect Evidence Supporting the Importance of Involvement

Theory suggests the potential importance of parent involvement in fostering emergent academic skills from an early age (Christenson, 2004; Rimm-Kaufman & Pianta, 2000). Parents who are involved in their children's preschool may be more knowledgeable about school activities, and thus better able to complement classroom learning. Involved parents likely help build positive relationships between children and their teachers, foster positive feelings about school in their children, and generally support children's social and academic development, all of which may facilitate learning. In addition to immediate benefits, early involvement patterns could influence later involvement, and help build a foundation of skills with ongoing effects

(Clements, Reynolds, & Hickey, 2004; Jimeron et al., 1999). In terms of indirect empirical evidence, studies of children as young as kindergarten have established a relation between parent involvement and achievement, as described above.

Why the Effect of Preschool Involvement Remains an Important, Open Question

Although promising, previous empirical findings with grade-school children cannot be assumed to generalize to preschool. There are substantial structural differences between kindergarten and preschool that might influence the effects of parent involvement. For example, in kindergarten parents likely experience children's first homework assignments, the presence of parent associations, report cards, parent-teacher conferences, and an increased emphasis on academic development. These factors could heighten the influence of parent involvement on academic development in grade school compared with preschool. On the other hand, preschool tends to be more family oriented than kindergarten. For example, many preschools encourage parents to spend time in the classroom, or even function as cooperatives, with parent involvement a condition of enrollment. Head Start considers family involvement to be a cornerstone of their approach, with workshops, family involvement in classrooms, mandated involvement of parents on committees, and family liaisons designed specifically to foster involvement. In addition, there is some empirical evidence that involvement patterns change at the transition to kindergarten. Rimm-Kaufman and Pianta (1999) found that school-family contact was less frequent in kindergarten than in preschool, and that contact was less likely to be family-initiated once children reach kindergarten. Rimm-Kaufman and Zhang (2005) found that less than half of fathers had contact with kindergarten teachers, compared to two-thirds who had contact with preschool teachers. Despite such evidence that involvement may be different in preschool

than later years, surprisingly little is known about the effects of preschool involvement.

Predictors of Involvement

Another gap in the research literature involves predictors of parent involvement in preschool. It has been shown that lower socioeconomic status (SES) parents of grade-school children participate less in their children's schools (Grolnick, Benjet, Kurowski, & Apostoleris, 1997; Reynolds, Mavrogenes, Bezruczko, & Hagemann, 1996). This pattern is perhaps not surprising given the disadvantages associated with poverty, but it is troubling, particularly given evidence that home-school collaboration may be especially important for lower SES families (Raffaele & Knoff, 1999). In addition, this finding, although an important first step, obscures differences within low SES families, many of whom are very involved. It also provides little practical guidance about which aspects of SES are most important, given that lower SES is associated with a broad range of disadvantages.

Very few published studies have examined predictors of parent involvement in the early school years. Another study examined barriers to involvement in Head Start, with mothers rating perceived barriers to involvement, and Head Start staff rating maternal involvement as high, medium, or low based on participation in meetings and activities, workshops, volunteer hours, and personal contact with staff (Lamb-Parker et al., 2001). Findings suggest that schedule conflicts and having a young child at home are associated with lower levels of involvement. Another study examined predictors of parent involvement among kindergarten and first-grade families (Kohl, Lengua, & McMahan, 2000). Maternal depression and single-parent status predicted less school involvement, consistent with previous findings with older grade-school children (Grolnick et al., 1997). In addition, single-parent families of prekindergarten, kindergarten, and first-grade students engaged in less home-school conferencing and home-based parent involvement than two-parent families

(Fantuzzo, Tighe, & Childs, 2000). These findings suggest that maternal depression and single-parent status might mediate the effects of low SES on participation.

Relevance for School Psychologists

Parents generally report a desire for greater involvement with their children's schools (Christenson, Hurley, Sheridan, & Fenstermacher, 1997; McWilliam, Maxwell, & Sloper, 1999), and children most at risk often have families who want to be involved, but are not engaged in effective home-school collaborations. School psychologists are in a unique position to bridge the gap between schools and families by influencing school policies, procedures, and infrastructure to support family involvement and improve communication between schools and families. In their role as advocates, school psychologists need stronger evidence for the importance of parent involvement during preschool. With limited resources available for early childhood education, empirical knowledge is needed to help guide and justify investments. If expected relations are found between early involvement and academic development, these data might help convince policy makers to invest in efforts to promote parent involvement. In their role as consultants, school psychologists could use information regarding predictors of involvement to facilitate creative solutions to support involvement (Fantuzzo et al., 1999; Raffaele & Knoff, 1999). Such findings would also serve as a base for school psychology researchers to build more specific knowledge about the best methods for fostering effective parent involvement.

The Current Study

The current study evaluates the relation between parent involvement and preliteracy development, using independent sources to assess involvement and achievement. It should be noted that the term *parent involvement* is used throughout the study, but the sample is predominantly comprised of mothers. In addition, this study examines whether parent

depression symptoms and single-parent status are related to involvement, and whether these potential predictors mediate the relation between SES and involvement. Five specific hypotheses were addressed: First, it was predicted that parent involvement would be positively related to preliteracy development. Second, it was hypothesized that levels of SES would be positively associated with levels of parent involvement. Third, it was expected that a significant positive relation between involvement and preliteracy development would be observed, even controlling for SES, because involvement should have effects on development regardless of SES. Fourth, parent depression symptoms were expected to be negatively associated with parent involvement, and to partially mediate the relation between SES and involvement. Fifth, single-parent status was predicted to be associated with less parent involvement, and to partially mediate the relation between SES and involvement.

Method

Participants

Participants were 163 preschool children (81 girls), their parents (157 mothers, 4 fathers, and 2 grandmothers), and the 19 lead preschool teachers from 19 classrooms in seven child care centers in an urban New England setting. The children averaged 4.5 years in age ($SD = 0.5$). Ages ranged from 3.4 to 5.4; 25 of the children were 3 years old, 116 were 4 years old, and 22 were 5 years old. None of the children were identified as having special education needs. Five of the centers served low SES families, with a median family income of \$21,500. The other two centers served middle to upper SES families, with a median income of \$57,000. Study participation rates were identical at the centers serving lower versus higher SES families, in terms of the percentage of invited families who agreed to participate in the study (62%). Because most of the centers served low SES commu-

nities, the majority of invited and participating families were from these centers (122; 74.8%). All of the children attended preschool for a full day (i.e., until at least 3:00 each afternoon). At the time of the current study, none of the centers was actively using a prepared curriculum, although two centers were considering, and have since purchased, Creative Curriculum (Dodge, Colker, & Heroman, 2002).

Centerwide efforts to facilitate parent involvement were not formally assessed, but informal observations suggested that most of the centers did little in terms of structured programs for involving parents. Two of the centers (one high SES, one low SES) had policies of encouraging parents to volunteer in the classroom. In practice, parents volunteered occasionally at one of these centers (the high SES center), and more often at the other. One of the centers had a family advocacy program that helped connect parents to the school. All of the centers had occasional parent meetings in the evenings, but these were infrequent.

All of the centers were licensed by the state, as required by law. As part of these center licensing requirements, all lead teachers were required to have a high school diploma and at least four additional courses relevant to early child care. All four lead teachers from the high SES centers had college degrees, and none of the teachers from the other centers had completed college. Table 1 presents other descriptive information about the centers, including accreditation status and parent payment information.

As reported by parents, 32% of the children were Puerto Rican, 29% African American, 32% non-Hispanic White, and 7% other (mostly multiracial). The Puerto Rican families of this community were quite acculturated, with the parents and the children comfortable using English. Eighty respondents (49.1%) described themselves as single parents, whereas the other 83 children lived in dual-parent households. With respect to the teachers, seven were Puerto Rican, four were African American, and eight were non-Hispanic White.

Table 1
Characteristics of Participating Classrooms

Center Size ^a and Type	SES	Classes (Participants)	Parents Pay? ^b	NAEYC Accredited? ^c
Large, government-funded center	Low	5 (2, 4, 7, 7, 12)	No	Yes
Medium, private center	Low	2 (6, 15)	Vouchers	In process
Large center, affiliated with community agency	Low	3 (8, 9, 11)	Subsidized and vouchers	No
Medium center, affiliated with national nonprofit	Low	2 (10, 14)	Subsidized	In process
Medium, private center with small (single-teacher) classrooms	Low	3 (5, 6, 6)	Yes/vouchers	In process
Large, private center, affiliated with religious community center	High	2 (9, 14)	Yes	Yes
Small, private center, serving children of a company's workers	High	2 (9, 9)	Yes	Yes

Note. SES = socioeconomic status; NAEYC = National Association for the Education of Young Children.

^a "Large" refers to six or more classrooms. "Medium" refers to four to five classrooms. "Small" refers to two to three classrooms. Only classrooms with 4-year-old children participated in the study.

^b "Yes" indicates that parents generally paid full tuition; "no" indicates that services were free of charge; "vouchers" indicates that most families received state vouchers that covered most of the costs of day care; and "subsidized" indicates that parents paid reduced fees because the center was subsidized from another source.

^c "In process" indicates that the center was seeking accreditation at the time of the study, and has since been successfully accredited. "No" indicates that the center was never accredited (this center has since been closed because of licensing violations).

Procedure

Letters were sent to all families from each preschool, inviting them to participate in a larger study of child development. This larger study examined the effects of an early intervention program that was implemented by both parents and teachers. Data for the present article were collected before the intervention began, which allowed for an examination of naturally occurring relationships, uncontaminated by intervention effects. Interested parents attended an assessment session during which they completed questionnaires, including a demographic inventory and a measure of their own depression symptoms. The lead teacher from each classroom completed a measure of parent involvement for each participating child. Children's preliteracy development was assessed in a quiet room at their preschool by clinical psychology doctoral students with extensive

testing experience. Testing took approximately 45 min per child. The data were collected between 1996 and 1998. The measures described as follows were current at that time, although updated versions have since been published.

Measures

Demographic information. Parents completed a demographic form that included questions about their education, income, and single-parent status. A continuous composite measure of SES was formed by standardizing parents' education and family income (creating z scores of these variables), and averaging these two variables together. The choice to combine these variables was made because the constructs are closely related, both within this sample and in society. This composite measure also maps closely onto, for example, the Hollingshead approach to measuring SES,

most often used in previous research (e.g., Grolnick et al., 1997).²

Parent involvement. Teachers completed a revised version of the Parent-Teacher Involvement Questionnaire (Reid, Webster-Stratton, & Beauchaine, 2001; Webster-Stratton, 1998; Webster-Stratton, Reid, & Hammond, 2001). For the purposes of the present study, the 10 items directly measuring parent involvement were used. These items are presented in Table 2. The scale directions are: "We would like you to answer the following questions about your relationship with this student's parents and their involvement with the school in the past 2 to 3 months. Choose the item that comes closest to your ideas." Each item is answered on a 5-point Likert scale, with higher scores indicating more involvement. Scores were averaged across the 10 items. These items were developed by the Oregon Social Learning Center, and have been used in subsequent research (Reid et al., 2001; Webster-Stratton, 1998; Webster-Stratton et al., 2001). In previous studies, Cronbach's alpha ranged from .76 to .92 (Reid et al., 2001; Webster-Stratton, 1998; Webster-Stratton et al., 2001), and was .89 for the present sample. With respect to validity, involvement scores on this measure relate to parents' own reports of involvement (Webster-Stratton et al., 2001), and reflect expected changes in an intervention designed to increase involvement (Reid et al., 2001; Webster-Stratton, 1998; Webster-Stratton et al., 2001).

Preliteracy development. The following standardized measures of language and preliteracy skills were chosen because they assess a range of skills that predict future academic achievement (National Research Council, 1998; Whitehurst & Lonigan, 1998). The Peabody Picture Vocabulary Test—Revised (Dunn & Dunn, 1981) is a well-normed and extensively validated measure of receptive vocabulary. Split-half reliability has been reported as .80 (Dunn & Dunn, 1981), and scores on the The Peabody Picture Vocabulary

Table 2
Parent Involvement Scale Items

1. Has this child's parent called you in the past 2-3 months? (*Never; More than once/week*)
2. Has this child's parent stopped by to talk to you in the past 2-3 months? (*Never; More than once/week*)
3. How much is this parent interested in getting to know you? (*Not at all; Very interested*)
4. How well do you feel you can talk to and be heard by this parent? (*Not at all; Very well*)
5. If you had a problem with this child, how comfortable would you feel talking to his/her parent about it? (*Not at all; Very comfortable*)
6. How often has this parent asked questions or made suggestions about his/her child in the past 2-3 months? (*Never; More than once/week*)
7. To the best of your knowledge how much does this parent do things to encourage this child's positive attitude towards education (e.g., take child to the library, play games to teach child new things, read to child)? (*Not at all; A whole lot*)
8. How often has this parent volunteered in the classroom in the past 2-3 months? (*Never; More than once/week*)
9. How involved is this parent in his/her child's education and the classroom? (*Not at all; Very much involved*)
10. How important is education in this family? (*Not at all; A whole lot*)

Note. Each item is rated on a 5-point scale. Response choices at extreme ends of the scale are indicated in parentheses. These items were derived from the Parent-Teacher Involvement Questionnaire, developed at the Oregon Social Learning Center. Reprinted with permission.

Test—Revised have shown good concurrent (Zucker & Riordan, 1988) and predictive (Zucker & Riordan, 1990) validity. The Expressive One-Word Picture Vocabulary Test—Revised (Gardner, 1990) is a widely used test that measures expressive vocabulary. Its internal consistency has been estimated at .94 (Gardner, 1990), and criterion

validity has been established in terms of relationships with scores on other language tests as well as naturalistic language samples (Ukrainetz & Blomquist, 2002). The Auditory Skills and Print Concepts subtests of The Developing Skills Checklist (DSC; McGraw-Hill, 1990a) were used. Auditory Skills assesses children's ability to identify same versus different sounds, segment words and sentences, and identify rhymes. Print Concepts assesses knowledge about print, components of writing, and the structure of books. Internal consistency has been estimated at .84 for each of these two subscales, and concurrent validity has been established with other standardized preliteracy tests (McGraw-Hill, 1990b). In addition, DSC scores have been linked to first-grade reading skill (Storch & Whitehurst, 2002).

The Peabody Picture Vocabulary Test—Revised and Expressive One-Word Picture Vocabulary Test—Revised both provide standard scores with a mean of 100 and a standard deviation of 15. The DSC also provides normative scores and standard deviations for Auditory Skills and Print Concepts. We used this DSC information to convert DSC scores to the same scale as The Peabody Picture Vocabulary Test—Revised and Expressive One-Word Picture Vocabulary Test—Revised standard scores, and then created a composite preliteracy score by averaging the four standard scores obtained from these tests.³

Parent depression. Parents completed the Brief Symptom Inventory, a self-report assessment of psychological symptoms, written at a sixth-grade reading level (Derogatis, 1993). The Brief Symptom Inventory includes six items that provide an assessment of depression symptoms. The internal consistency of the Brief Symptom Inventory Depression subscale has been estimated at .85. Extensive validity data support its use, and the subscale is related to more extensive assessments of depression symptoms (Derogatis, 1993; Morlan & Tan, 1998).

Analytic Approach

Two sets of analyses were conducted. The first set examined the interrelations among involvement, preliteracy development, and SES. Using simple correlations, the hypotheses that parent involvement would be related to preschool children's preliteracy achievement, and that SES would be associated with involvement, were evaluated. The relation between involvement and achievement, controlling for SES, was then examined using simultaneous multiple regression. In the second set of analyses, the relation between maternal depression symptoms and involvement was examined using a simple correlation, and the association between single-parent status and involvement was evaluated with a *t* test. If depression or single-parent status were associated with involvement, the Baron and Kenny (1986) approach was used to examine whether these variables were possible mediators of the relation between SES and involvement. This approach assumes that mediating variables are associated with predictor and outcome variables, and that mediating variables account for significant variance in the relation between predictors and outcomes, such that the relation between a predictor and outcome is diminished when controlling for the mediator. A power analysis indicated that this sample provided power greater than .9 to detect medium effects for all analyses, as defined by Cohen (1992).

Results

Descriptive Statistics

The average parent involvement score was 3.0 (*SD* = 0.89) out of a possible 5. Children's academic scores were 1.0 standard deviation below national norms (*M* = 85.0, *SD* = 15.3; Dunn & Dunn, 1981; Gardner, 1990; McGraw-Hill, 1990b). Parent depression scores were similar to national averages (average *T* score = 49.9, *SD* = 9.4). Median family income was \$30,000 (*M* = \$47,100, *SD* = \$54,761) and median parent education was "some college." Table 3 presents the in-

Table 3
Intercorrelations Among Study Variables

Variable	1	2	3	4	5
1. Involvement	—	.27***	.18*	-.15	-.35***
2. Academic composite		—	.28***	-.04	-.13
3. SES			—	-.03	-.23**
4. Depression symptoms				—	.27*
5. Single-parent status (0 = No, 1 = Yes)					—

Note. SES = socioeconomic status. All correlations are Pearson correlations, except for correlations involving depression symptoms. Because depression symptoms were skewed, Spearman correlations were used for this variable.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

tercorrelations among study variables. The depression variable was somewhat positively skewed because of low occurrence of symptoms. For this reason, Spearman correlations were used for this variable. Otherwise, no significant heteroskedasticity, multicollinearity, or outliers were observed, and Pearson correlations are presented for all other variables.

Involvement, Preliteracy, and SES

As predicted, higher parent involvement was related to children's preliteracy ($r[154] = .27, p = .001$). Consistent with the hypothesis that higher SES would be associated with greater involvement, SES was significantly correlated with involvement ($r[161] = .18, p = .02$). As predicted, involvement remained significantly correlated with test scores when controlling for SES ($B[152] = .23, SE = .08, p = .003, R^2 = .13$).

Predictors of Involvement

Depression scores were not significantly related to parent involvement ratings ($r[111] = -.15, p = .12$). As predicted, single parents were rated as less involved in their children's schooling than parents from two-parent families. The mean involvement rating for single parents was 2.6 ($SD = 0.86$), com-

pared with 3.3 ($SD = 0.81$) for other parents ($t[161] = 4.7, p < .001$).

Given the relation between single-parent status and involvement, further analyses were conducted to evaluate whether single-parent status might partially mediate the relation between SES and involvement. Analyses utilized Baron and Kenny's approach (1986), adjusted to account for single-parent status being dichotomous (see MacKinnon & Dwyer, 1993). As required for the mediational model: (1) single-parent status was related to parent involvement, as presented in the previous paragraph; (2) SES predicted single-parent status, using logistic regression (logistic $b[161] = .68, SE = .25, p = .007$, Nagelkerke $R^2 = .07$); and (3) when involvement was simultaneously regressed onto single-parent status and SES, single-parent status continued to predict involvement (controlling for SES, $B[159] = -.33, SE = .08, p < .001, R^2 = .13$), and the relation between SES and involvement was lower, although not significantly so, compared to the simple relation of $B(159) = .10, p = .18$.

Discussion

The present study provided empirical support for the widely held belief that preschool parent involvement is important. It also provided a first step in understanding pre-

dictors of early involvement. This discussion provides an overview of the current study's findings concerning the relation between involvement and preliteracy development, describes the effect sizes obtained in the context of the previous literature, and summarizes results regarding predictors of involvement. Limitations of this study and suggestions for future research are presented, ideas for improving the conceptualization and measurement of involvement are described, and practical implications of this study for school psychologists are discussed.

Parent Involvement and Preliteracy Development

Results support the hypothesis that parent preschool involvement is related to children's preliteracy development. This finding extends previous work documenting the importance of parent involvement in children's elementary and high school years. By having teachers rate involvement, and using independent testing to assess preliteracy development, the possibility of common biases is avoided. Also consistent with previous findings with older children (Grolnick et al., 1997; Reynolds et al., 1996), parent involvement was related to SES. However, this relation was relatively small, with varied levels of involvement across SES levels. Involvement predicted academic development even when controlling for SES, consistent with the assumption that involvement has direct benefits and is not only a marker of SES.

Effect Sizes

Effect sizes in the current study were in the small to medium range (Cohen, 1992). Previous studies of the relation between involvement and academic development with preschoolers had been mixed. Mantzicopoulos (1997) found no significant relation between involvement and academic development, perhaps because of the single-item measurement of involvement. In contrast, Taylor and Machida (1994) found a corre-

lation of .41 between involvement and learning skills, although this estimate may have been inflated by shared method variance, because teachers rated both variables. Current effect sizes are consistent with the more extensive literature based on older children. For example, present correlations between involvement and academic development are very similar to those found in the large study by Izzo et al. (1999) in early grade school, and to Grolnick's and Slowiaczek's (1994) findings with 11- to 14-year-old children. Effect sizes obtained regarding differences in involvement as a function of SES and single-parent status are also similar to findings with older children (Kohl et al., 2000).

Predictors of Involvement

As expected, single parents were less involved in their children's schools, and data were consistent with single-parent status as a partial mediator of the relation between SES and involvement. This finding is consistent with work concerning single parents of older children (Grolnick et al., 1997; Kohl et al., 2000). It is likely more difficult for single parents to find time to participate, because they may be shouldering the responsibility of parenting alone. Scheduling conflicts and having young children to care for may interfere with involvement (Lamb-Parker et al., 2001). These results point to possible benefits of supporting involvement by providing, for example, child care and meals for parent events, and flexible scheduling options.

Contrary to hypotheses, a significant relation between depression symptoms and involvement was not found. Levels of depression were relatively low in this sample; perhaps a relation would be observed in a sample in greater distress. On the other hand, a significant relation between single-parent status and depression symptoms was observed, similar to previous studies (Brown & Moran, 1997; Cairney, Boyle, Offord, & Racine, 2003), suggesting that the assessments captured meaningful levels of depression

symptoms. Because these results are inconsistent with theory and past research, they should be interpreted with caution.

Study Limitations and Future Directions

Sampling. Parents who took part in the study may have been more motivated and involved than parents who chose not to participate. This sampling restriction would be expected to lessen the variability of involvement somewhat, and in turn slightly underestimate relations between involvement and other variables. Restricted range is not likely to be a cause of spurious relations, but representative sampling should be a goal of future studies. Further, all participants were from the same geographical region, limiting generalizability of the findings on this variable. Only four of the parent participants were fathers, so no conclusions regarding fathers can be drawn. In addition, the involvement of extended family, such as grandparents, plays an important role in many cultures, pointing to the need for broader conceptualization and assessment of involvement (see below).

Teacher report. The present study and most previous work have relied on teacher report of involvement. Teachers' ratings of parental involvement were used in the present study because they are expected to be more objective than parent report, and allow comparability to previous studies. Teachers also have a natural comparison group of children in their classroom, which should improve their accuracy. Previous research supports the idea that teachers are good raters of other constructs important to child development (Cullerton-Sen & Crick, 2005; Doctoroff & Arnold, 2004; Tripp, Schaughency, & Clark, 2006). At the same time, any single report of a construct provides a limited perspective and has the potential for reporter bias. It will be important for future studies to include multiple methods of involvement measurement, to improve assessment and provide convergent evidence (Reynolds, 1992).

Broadening studies of predictors of involvement. Future work should examine other possible predictors associated with SES. Future work should include center-, classroom-, and teacher-level variables. The present study did not have enough power to disentangle center-level from child-level factors, but this is an important topic for future research. Powerful SES differences related to many classroom characteristics have been demonstrated (Evans, 2004), and center differences in the present study could account for part of the relation between involvement and SES. For example, better teacher-child ratios might foster children's academic development and allow teachers more time and energy for promoting parent involvement. Attempts to disentangle the effects of center and family SES will be important in their own right, and will provide important clues regarding mechanisms and processes in the relationship between involvement and academic development.

Process studies. The present study measured involvement and preliteracy development as they naturally occurred, in fairly general terms. To better understand the processes and mechanisms by which involvement and preliteracy are related, future studies should collect more specific and fine-grained information across time. For example, curriculum-based measures could illuminate specific school-based learning, and clarify how parents influence change in skill acquisition across a school year. Observational measures would also be helpful in identifying the mechanisms of these relationships.

Causality. Causal inferences cannot be made because of the correlational design. On one hand, involvement may be a marker for other positive family characteristics that could account for some of the relation, leading to an overestimate of the importance of involvement. On the other hand, child problems would be expected to spur parent-teacher connections, so the observed relations might also underestimate the causal role of involvement.

Experimental studies could clarify causal connections and the meaning of effect sizes, illuminate the active processes of involvement, and provide potential benefits by increasing involvement.

Cultural factors in involvement. Future research should consider cultural factors in involvement (Wong & Hughes, 2006), especially because ethnic minority families are disproportionately affected by poverty. In the present study, ethnicity and SES were largely confounded, as in much of society, so their independent effects could not be disentangled. A variety of possible factors could be relevant in this area. Language barriers may play a role in parent-teacher communication for some parents. Different cultures may have different views regarding teacher authority and parent-teacher relationships (Sy, 2006). Parents may experience negative perceptions of their ethnic group, or comfort levels may differ for parents interacting across ethnic groups (Garcia Coll et al., 2002). Some evidence suggests that African American and Hispanic parents may be likely to expect that communication be initiated by the school (Chavkin & Williams, 1993). Also, teachers might also be less comfortable raising a problem when there are cultural differences between the teachers and parents, which could leave the problem unaddressed.

Broader effects of involvement. Theory and research with older children suggest that involvement likely has effects on areas other than academic success, such as children's social-emotional development (Marcon, 1999). The impact of involvement on social-emotional development may be even more pronounced for children in early childhood, when children develop foundational behavioral skills for learning, such as emotion regulation and peer interactions. By examining such effects, future research could help build a more complete and integrative model of children's development, recognizing the interplay between developmental domains.

Improving Conceptualization and Measurement of Involvement

Measures of involvement used in the current study and most previous studies are limited in terms of their breadth and failure to consider the quality of involvement. In addition, conceptualizations of involvement need to consider the construct as a collaborative partnership, rather than as only a parental responsibility.

Dimensions of involvement. The current measure of parent involvement was more comprehensive than the single items used in most previous studies of preschoolers, but this research area has seen increased sophistication in conceptualizing and measuring involvement. Fantuzzo and colleagues (Fantuzzo et al., 2004) have developed a multidimensional assessment of family involvement for children from preschool into early elementary school. Aspects of involvement as rated by parents on this multidimensional scale have been associated with children's learning behaviors, classroom conduct, and receptive vocabulary (Fantuzzo et al., 2004). Kohl et al. (2000) identified six discrete factors of parent involvement, and Walker, Wilkins, Dallaire, Sandler, and Hoover-Dempsey (2005) demonstrated the importance of distinguishing between parents' specific involvement behaviors and their affective valence regarding school. Future studies should continue to carefully define and measure different types of involvement, and examine whether specific types of involvement are differentially associated with child achievement.

Quality of involvement. Although the effect sizes identified in this study appear to be meaningful, involvement was associated with only a small percentage of the variability in outcomes. Stronger associations might be achieved by measuring quality as well as quantity of involvement. For example, a constructive, positive, problem-solving discussion with a teacher would likely have very different effects than a hostile confrontation about the

same problem. Traditional measures do not focus on the quality of involvement, and it is certainly possible that different types of involvement, in different circumstances, would have different, even detrimental, effects (Arnold, O'Leary, & Edwards, 1997). More generally, involvement can take numerous forms, so understanding the most important aspects of involvement, and how to best facilitate those, is needed.

Involvement as collaboration. The literature on parent involvement, at times, reads as if it were solely the parents' job to reach out to the schools. In fact, involvement occurs within a powerful social context. The atmosphere created by teachers, the center director, and other school personnel is likely critical to parents' empowerment and sense of comfort in contributing to their children's academic development. Better understanding of school factors in early involvement could help foster family-centered preschools that encourage involvement and support children's academic development (McWilliam et al., 1999). For example, little research has examined teachers' explicit and implicit communication to families regarding involvement, and this is likely an important, malleable factor in parent participation. The practices of school personnel play a critical role in whether effective family-school partnerships are formed. Fantuzzo, Perry, and Childs (2006) posited that these variables are even more critical to involvement than family characteristics, such as income and education. Understanding the mechanisms by which teacher and center characteristics influence involvement would require large-scale studies, but would be worth the investment. School psychologists are ideally positioned to help promote changes in school climate, and in turn, involvement patterns.

Practical Implications for School Psychologists

The present findings support the potential benefits of interventions that foster involvement, and begin the process of building a

knowledge base to guide such programs. School psychologists may serve as an important force in helping promote this perspective. School psychologists are in a unique position to assume a leadership role in family-school collaborations to facilitate children's social, emotional, and academic outcomes. Specifically, school psychologists understand children's developmental needs and the importance of family factors. They also have strong assessment and communication skills as well as expertise in team building and consultation. School psychologists can help school personnel reconceptualize family more broadly to consider, for example, the importance of extended family and of tailoring programs to different families' needs. The problem of how to create effective home-school collaborations requires an understanding of individual and systemic variables, and school psychologists have the capacity to help bridge the gap between home and school.

Schools must work with families as active partners in children's education, building a family-school collaboration framework in which schools take responsibility for engaging parents. School psychologists can help reduce the barriers to effective home-school partnerships and promote bidirectional communication and shared decision making (Christenson & Sheridan, 2001; Raffaele & Knoff, 1999). For example, school psychologists can train school personnel to broaden their conceptualizations of parent involvement and improve communication strategies, assess family needs, create family-school teams, develop shared goals with families, and model effective ways to engage families as active collaborators. In a recent review of family-school collaboration interventions, Cox (2005) noted that even simple strategies can be quite effective in promoting involvement (e.g., a home-school daily report card). These efforts are critical, as parents are children's first teachers and play a continuing role in their development. Although further research is needed, school psychologists can draw upon existing research (see Christenson & Sheridan, 2001) to inform their efforts to help schools adopt

evidenced-based strategies to promote involvement and family-school collaboration.

Footnotes

¹The term *preschool* rather than *day care* is used in this general discussion, because it more specifically indicates the age range of interest. The review, however, includes research on early child care settings in general, including those that would typically be called "day care centers" as well as "preschools."

²Results are essentially equivalent if education and income are considered separately.

³Results are essentially equivalent if the academic tests are considered separately.

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Date Received: November 3, 2006

Date Accepted: August 17, 2007

Action Editor: Shane Jimerson ■

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TITLE: Parent Involvement in Preschool: Predictors and the
Relation of Involvement to Preliteracy Development
SOURCE: Sch Psychol Rev 37 no1 Mr 2008

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