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Promoting Involvement Between Low-Income Single Caregivers and Urban Early Intervention Programs

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By focusing on the roles of family characteristics, stress, and a program's organizational climate, this study investigated why some low-income single caregivers with children with disabilities tend to be more involved in early intervention services than others. The participants in this research were low-income single caregivers whose young children were enrolled for the first time in early intervention programs with opportunities for caregiver involvement. The results indicated direct effects for family characteristics in predicting caregiver/program involvement. Relationships between family characteristics and caregiver/program involvement were also moderated by parenting stress and perceptions of a supportive program climate. Implications for family-centered practice are discussed.

Publicly funded early intervention programs located in major cities serve a disproportionate number of children from low-income single-parent families. These families are one of the most rapidly expanding segments of the population in the United States, with births to single mothers accounting for one third of all births (KIDS Count, 2000). Among African Americans, approximately half of all children under age 18 live with single mothers coping with poverty (Child Health, 2000; Federal Interagency Forum, 1998). Such families encounter substantial stressors, including high rates of parental unemployment, low-wage employment, and low educational attainment; unstable and unsafe living arrangements; family and community violence; parental and neighborhood substance abuse; and child abuse and neglect. These chronic stressors can create significant family distress, constrain parental functioning, and negatively affect the social, emotional, and cognitive development of children (Brooks-Gunn, Duncan, & Aber, 1997; Huston, 1991; Jackson, Brooks-Gunn, Huang, & Glassman, 2000; Mayer, 1997; McLoyd, 1998; Seccombe, 2000; Sherman, 1994).

Staff of early intervention programs have increasingly recognized the value of actively involving caregivers. Within the last decade, a growing number of early intervention programs have expanded beyond traditional child-focused services to offer a wider variety of activities in which parents can participate, including family support services (Dunst, 2000). The family-support components of early childhood programs are designed to strengthen personal coping and family functioning (Dunst, Trivette, & Deal, 1994). For early intervention programs, this shift in focus to the welfare of the entire family has been encouraged by legislation such as Part C of P.L. 99-457, P.L. 94-142, and the Individuals with Disabilities Education Act (Epps & Jackson, 2000).

Research also points to the family as an important influence on the impact of early intervention programs (Bradley, Burchinal, & Casey 2001). Some early intervention research suggests that combining parent-focused services with child interventions is most apt to prevent developmental problems over time (Ramey et al., 1992; Ramey et al., 2000; Shonkoff, Hauser-Cram, Krauss, & Upshur, 1992). It has also been found that the effectiveness of early intervention services in modifying children's behaviors depends upon changes in parental behaviors (Mahoney, Boyce, Fewell, Spiker, & Wheeden, 1998; Peters, 1988). While debate continues about the relative importance of parent involvement for directly improving children's developmental outcomes (Knowlton & Mulanax, 2001; Palmer & Andersen, 1997; White, Taylor,

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& Moss, 1992), there is increasing recognition that involving families can support and enable parents in caring for their children with disabilities (Bailey et al., 1998).

Little is known, however, about why some families are more likely to participate than others and about which factors promote involvement (Dinnebeil, Hale, & Rule, 1999). This is especially true of those most likely to need support, that is, single-caregiver families living in poverty with children with disabilities. Despite the acknowledged importance of a family-centered practice that engages low-income single parents more fully in a range of child- and family-focused activities, implementing such an approach has been difficult (Bruder, 2000). Particularly challenging is establishing collaborative working relationships with low-income single caregivers, who have traditionally been seen as "hard to reach" (Brinker, Frazier, & Baxter, 1992; Countryman, 1994; Winters, 1993). Involving them is critical, however, because the successful implementation of a family component of an early intervention program depends on the program's ability to engage all caregivers meaningfully in services, both those that are child-focused and those providing family support.

The theoretical approach that guides this investigation draws upon developmental–ecological models that have been used to understand parenting, mostly in regard to parent–child interaction (Belsky, 1984; Bronfenbrenner, 1979; Lerner, Castellino, Terry, Villareal, & McKinney 1995). In these models, family processes, stress, and supportive resources are important determinants of parenting behaviors. In this study, the contextual perspective is expanded to include early intervention services, with caregiver involvement viewed as a parenting behavior unique to families of children with disabilities. Olds (1997) proposed a similar "person–process–context" model involving parent, family, and program characteristics that is informed by human ecology theory; Olds's model seeks to explain child health and developmental outcomes not specific to children with disabilities.

Our approach also integrates a view of caregivers and staff as "agenic as well as responsive" (Riger, 2001). In this study, caregivers were viewed as actively involved in coping with and in striving to meet the needs of their families. At the same time, caregivers respond to their environment. This perspective is grounded in prior research with low-income, African American single-parent families (Brodsky, 1999; Winters, 1993).

Central to this perspective is that coping behaviors (e.g., program involvement, as in this study) are influenced or moderated in part by caregiver beliefs and perceptions about themselves and their environment (Olds, 1997). A moderating effect is also suggested by Moos and Schaefer's (1993) model of stress and coping that highlights the important role in determining coping responses of a person's cognitive appraisal of an event. Also, in a different context, Wandersman and Giamartino's (1980) model of citizen participation emphasized that the individual's perception of the personal importance of local community problems in part determined participation.

As shown in Figure 1, family needs and functioning were proposed to be positively related to parent/caregiver

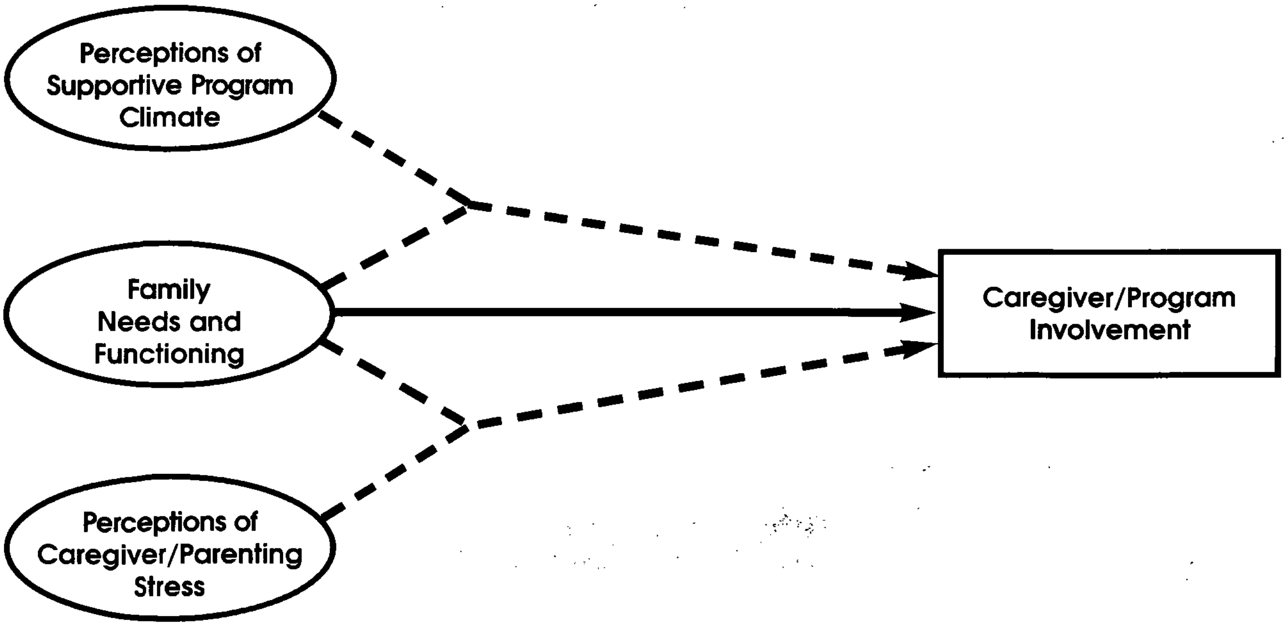

Figure 1. Proposed direct and moderator effects. Solid line indicates proposed direct effect; dotted lines indicate proposed moderator effects.

involvement. This is consistent with research suggesting that the scope and intensity of family needs and support systems influence helpseeking and service delivery (Birkel & Rappucci, 1983; Eisenstadt & Powell, 1987; Unger & Wandersman, 1988), and with findings that parents with greater needs are more involved in Head Start and family-support programs (Green, Johnson, & Rodgers, 1998; Parker et al., 1997). Indirect support for proposing a direct relation between family needs and caregiver/program involvement comes from results with early intervention and parenting-skills training programs for low-income parents (Bradley et al., 2001; Rueter, Conger, & Ramisetty-Mikler, 1999). In this research, families that had the greatest needs benefited most from the services. Finally, the hypothesis is consistent with literature concerning the stresses, coping, and resiliency of low-income minority families and their commitment to their children's education (Genero, 1995; Jarrett, 1994; Jones & Unger, 2000; Rosier & Corsaro, 1993; Winters, 1993).

While family needs and functions may be directly related to caregiver/program involvement, we also proposed that family involvement would be moderated by stress and perceptions of organizational climate. Greater parenting stress was expected to make it more likely that difficulties in family functioning and meeting family needs would result in greater caregiver/program involvement. Stressors related to parenting may increase the perception or salience of need for services from the child's early intervention program.

Perceptions of a supportive program climate also seemed likely to moderate a caregiver's decision to become involved in early intervention services to address family needs; schools have organizational climates, of which consideration, cooperation, and mutual respect are key dimensions (Hoy, Tarter, & Kottkamp, 1991). This assumption of the importance for caregivers of a supportive organizational climate is consistent with research suggesting that parents are more likely to become involved in family-support and early intervention programs when such programs are perceived as helpful, positive places responsive to the needs of families (Deberry, Ristau, & Galland, 1984; Dinnebeil, Hale, & Rule, 1999; Powell, 1989; Simeonsson, Bailey, Huntington, & Comfort, 1986; Unger & Wandersman, 1988).

Both parenting stress and the perceived organizational climate of an early intervention program were believed to be moderators especially relevant to caregivers with young children with disabilities and to low-income, single African American caregivers. Not all caregivers with young children with disabilities experience high parenting stress, but the stressful demands of parenting a child with disabilities are commonly reported (Beckman, 1991; Robson, 1997). Such stresses are compounded by poverty. Also, program climate is particularly significant for helpseeking among African Americans. Many African Americans are reluctant to seek professional medical services, partly because of continuing racism in the United States, a medical model guiding services that has a history of culturally insensitive practice in responding to the reproductive and health needs of African American women, and gender and race biases in diagnostic judgments (Collins, 1994; Solinger, 1994).

The purpose of this study was to understand the involvement of low-income single caregivers who had the opportunity to participate over their child's first year in an early intervention program. Several key issues with prior research have hindered a clear understanding of caregiver involvement. Common definitions and measurement strategies for "parental involvement" have been lacking, and there has been little agreement regarding a method for conceptualizing the diverse types and levels of parent involvement (White, Taylor, & Moss, 1992). This is in part because the types of activities in which parents can become involved range from passive receipt of information to direct involvement in the educational and therapeutic components of a program or to active participation in decision making about a program, such as membership on a parent policy council (Turnbull & Turnbull, 1990). Participation can include formal, informal, routine, or enhanced activities or a combination of these activities (Ellis & Turnbull, 1995; Lindle, 1989; McCarney, 1986; Stephenson, 1992; Winton & Turnbull, 1981). Frequency of participation is also likely to vary among caregivers, occurring on an ongoing basis (e.g., volunteering in a classroom) or intermittently, based upon presenting child and family concerns.

Previous studies have generally focused on the frequency with which caregivers have contact with programs. The measure of involvement used in the present study, however, was not based on frequency but upon the *types* of involvement that occurred over time. In low-income families, frequency of involvement is likely to be compromised by the competing, daily demands of managing their lives and their families (Brinker, Frazier, & Baxter, 1992; Eisenstadt & Powell, 1987). However, although single caregivers living in poverty may be unable to frequently attend activities, this does not necessarily reflect the extent or range of their involvement in activities and services when family needs arise.

The current study's measure of involvement is also based on enhanced activities involving caregivers and program staff over time. The term *enhanced activities* refers to intervention activities that involve both caregivers and staff. This is in contrast to more routine activities such as signing forms, returning paperwork, or attending required meetings. The intent of creating this measurement category was to assess activities more likely to reflect exchanges and interactions between caregivers and staff.

Research consistently has suggested that the relationship between caregivers and staff is a key dimension of involvement (Bailey et al., 1998; Epps & Jackson, 2000).

The assessment of caregiver involvement is further complicated by the question of whether a given caregiver actually has opportunities for being involved. Individual and programmatic factors beyond an individual's control can affect involvement opportunities. Caregivers, for example, may lose custody of a child, be severely ill, or have a child requiring extended hospitalizations. Also, programs may not encourage caregiver involvement. Previous research has shown that a lack of respect and support for parents, a relegation of parents to passive, peripheral roles in decision making, and administrative adherence to traditional views of parents as program supporters serve as barriers to involvement (Chavkin & Williams, 1990; Feldman, Gerstein, & Feldman, 1989; Leitch & Tangri, 1988; Nash, 1990; Vaughn, Bos, Harrell, & Lasky, 1988).

Therefore, sampling of caregivers and programs was critically important for testing the hypotheses. Caregivers in circumstances that prohibited their involvement (e.g., extended hospitalization of the child) were not included in the final sample for data analysis. Only programs that provided a range of opportunities for caregiver involvement (e.g., provided support services for caregivers as well as activities for caregivers to interact with and assist their children) were included in this study. Moreover, center-based programs were chosen because at the time of the study such programs had a wider range of involvement opportunities than programs delivered only in the home. Last, the focus was upon children who were newly enrolled in their programs; this provided an opportunity to understand the involvement of caregivers during a similar period of time.

Data were gathered from various informants using multiple methods of data collection. In addition, multiple characteristics were employed to measure the constructs in the study. Measures of family functioning, for instance, included perceptions of the family system, parent–child interaction, caregiver's knowledge of development, and family needs.

Only specific planned analyses were conducted for this study; numerous other effects between variables could have been tested. However, the scope of this article and size of the sample precluded testing a more comprehensive model of involvement.

HYPOTHESES

It was hypothesized that family characteristics would be related to the involvement in early intervention programs of low-income, single caregivers with children with disabilities. Caregivers reporting difficulties in family functioning and having greater parenting and family needs were expected to have greater caregiver/program involvement. It was also hypothesized that the relation of family variables to involvement would be moderated by parenting stress and program climate. Last, it was expected that descriptive data about the programs and the staff involved in working with caregivers would provide additional contextual data for understanding the moderating roles of parenting stress and program support.

METHOD

Early Intervention Programs

Thirteen early intervention, primarily center-based programs located in two large cities in the northeast region of the United States participated in the study. Programs selected served primarily young children with disabilities from low-income families. Also, all programs provided similar opportunities for parents to participate in their programs (e.g., through regular caregiver training sessions or workshops, caregiver support groups, and children's educational plans and services). Most services were center-based, but some centers (25%) also provided home-based services. The Early Intervention Programs (EIPs) were well established within their communities, and most had been in operation for more than 20 years; the programs were not Early Head Start programs. On average, programs had 18.7 full-time and 7.4 part-time staff. Programs enrolled approximately 100 children (see Table 1). Over the 3-year period of data collection, an average of 8 children per center participated in this study.

Children

Children were recruited from centers if they met the following eligibility criteria: (a) they lived with a single (unmarried) caregiver; (b) their family's income was at or below poverty level; (c) they had a stable caregiving arrangement (which could include formal or informal adoption and grandparent foster care); (d) their age was between 1 and 40 months; (e) they had not been in a previous early intervention program; (f) they were recently enrolled in the early intervention program participating in this study; (g) they were receiving primarily center-based services; (g) they remained enrolled in their program for at least 4 months (although some children did change programs after 4 months due to causes such as greater need, lesser need, or mismatch of program with child's needs); and (h) the caregiver or child was not precluded from being involved with the EIP by extended hospitalizations for children or caregivers, loss of custody because of abuse, death of caregiver, or transfer of

TABLE 1. Descriptive Statistics of Children, Centers, Caregivers, and Additional Study Variables

Variable	*M*	*SD*	Range
Children (*N* = 104)			
Child's age (in months)	25.49	8.51	7–40
Child's functional status (index)[a]	0.86	0.13	0.46–1
Overall developmental delay (index)[b]	2.09	1.12	1–4
Center characteristics (*N* = 13)			
Full-time staff	18.77	5.60	8–28
Part-time staff	7.38	5.41	2–21
Children enrolled	100.15	33.85	60–170
Caregiver/family characteristics			
Caregiver's age (in years)	27.61	6.86	16–46
Family functioning (index)[c]	13.72	1.75	9.78–19.50
Family needs (index)[d]	56.75	20.39	23–108
Knowledge of child development (index)[d]	18.44	2.67	12–23
Conflict and hassles with kin/kith (index)[c]	1.96	0.59	1–3.61
Caregiver/parent–child interaction (index)[c]	6.92	1.80	2.75–10
Caregiver perceptions of supportive program			
Teacher support (index)[d]	36.39	10.52	15–72
Program welcoming climate (index)[d]	39.67	6.73	17–48
Caregiver/parenting stress (index)[d]	89.03	22.19	42–147
Caregiver/program involvement (index)[a]	0.90[b]	0.61	0–3

[a]Composite score reported. [b]Categories of ordinal scale based on the *Bayley Scales of Infant Development* (Bayley, 1993)/Stanford-Binet scores. [c]Mean of an average score. [d]Raw sum score reported.

child to a program that was not participating in the study. The last sampling requirement resulted in 7 children and their caregivers, who had been interviewed at the time of the children's enrollments in the programs, being excluded from this study.

The children in the study ranged in age from 7 to 40 months, with a mean age of 26 months (see Table 1). Fifty-nine percent of the children were boys. Based upon developmental assessments (i.e., *Bayley Scales of Infant Development* [Bayley, 1993], *Stanford-Binet Intelligence Scale* [Thorndyke, Hagen, & Sattler, 1986]), 44.5% of the children had severe developmental delays, 21.9% moderate delays, and 24.5% mild delays. More than half (56%) of the children had *both* a physical impairment and a developmental/cognitive delay. The children's primary health and developmental delays included language delays, pervasive developmental disorders, motor delays, cognitive delays, cerebral palsy, seizures, Down syndrome, hearing and sight difficulties, asthma, emotional/behavioral disorders, and chronic medical problems.

Caregivers

The sample included 104 single-parenting caregivers with young children recently enrolled in EIPs. The majority of caregivers were biological mothers (91.3%); other single caregivers were fathers (2.9%), grandmothers (2.0%) or foster grandmothers (2.9%), and one aunt. Caregivers were primarily African American (82%); others were either Hispanic (9%) or European American (9%). Caregivers were, on average, 27.61 years old (range = 16–46 years), with the majority (86%) between 20 and 34 years old; 9.6% were teenage parents. All of the participants depended upon public assistance for some portion of their family's income; reported annual income for more than 56.7 percent of the families was less than $9,600. The majority of the caregivers (87.5%) were not employed outside the home; 8.7% were employed full-time, and 3.8% were employed part-time. Approximately a third (32.7%) of the single caregivers were living alone at the time of the interview. The remainder resided with the child's maternal grandmother (28.8%), with another relative (20.1%), or with the child's father or mother's partner (18.3%). The median number of children under 18 years of age per household was 2.7; the majority (68.3%) of such children were under 6 years of age.

Research Design

A dominant–less-dominant research design (Creswell, 1994) was used in which the quantitative component of the research was enhanced by qualitative data. The dominant, quantitative research design employed descriptive survey and observational techniques to gather cross-sectional family, stress, program climate, and longitudinal program/caregiver involvement data. Direct and moderating effects on involvement were then assessed. For the less-dominant research design, qualitative data were gathered by interviewing center directors and recording staff comments over time about caregivers and their involvement in the centers.

Procedure

EIP staff were provided eligibility criteria for the study and spoke personally with each new family about the study during a child's initial 2 weeks of enrollment in the EIP. Eligible families were given brochures addressing commonly raised questions about the study and told that their participation or lack thereof would not affect the services they received from their children's programs. Once a caregiver indicated interest in volunteering for the study, program staff referred the family to the study. Families were then contacted, further explanation of the study was provided, and an interview appointment was made. An advisory board of center directors (convened for this study) helped with recruitment by encouraging and supporting their staffs' involvement with this study. Data collection occurred over a 3-year period.

The first interview with the caregiver occurred shortly after the child's enrollment in the EIP. Questions regarding child and family characteristics, stress, and caregivers' first impressions of the supportiveness of their children's teachers were asked from a structured interview that was read to the participants, using response cards to aid respondents. A 20-minute free-play observation of the caregiver and child was made during the initial interview session. The caregiver was reimbursed $30. Closely following the interview, each child was administered a standardized developmental assessment, usually at the child's EIP. Most children (89%) were assessed using the *Bayley Scales of Infant Development.* Some children were assessed using the *Stanford-Binet Intelligence Scale* because of their older age and level of ability (as determined by the psychologist administering the assessment). Caregivers were interviewed again approximately 9 months after their first interview. At this time, data were collected regarding caregiver perceptions of the program's organizational climate. Caregivers were reimbursed $35. (All but one caregiver agreed to participate in both interviews).

A *Record of Caregiver–Staff Interactions* (RCSI) was used to assess caregiver/program involvement. The RCSI was designed to sample program activities beyond routine, daily, and required participation. Data were gathered approximately every 6 to 8 weeks over approximately a 9-month period, beginning at the child's enrollment in the EIP. At these times, the RCSI was completed for each child by up to four different EIP staff members who interacted with the caregiver. The RCSI was also used to obtain staff comments about circumstances affecting caregiver involvement. Identifying staff members and encouraging their completion of the forms involved ongoing collaboration among research assistants, principal investigators, and program staff.

Interviews were conducted with program directors to obtain center administrators' perceptions regarding caregiver involvement in their centers. The interview comprised open-ended, semi-structured questions that focused on issues such as the directors' interpretations of family-centered care and the activities their centers offered that involved caregivers.

Measures

Child Functioning. The short form of the *Functional Status IIR* (FS), developed by Stein and Jessop (1982), was used to measure the behavioral consequences of a disability or chronic illness for a child's physical, psychological, and social functioning (alpha reliability coefficient = .80). The short form was used because it was developed specifically for use with children under 4 years old. The FS has been used extensively with urban low-income children with health problems (Silver, Stein, & Dadds, 1996). Caregivers were asked whether their children performed or exhibited specific behaviors (14 items) during the last two weeks *never or rarely, some of the time,* or *almost always.* If poor functioning was evident, caregivers were asked if this was due to a health problem *fully, partly,* or *not at all.* Examples of behavior descriptions included are *eat well, act moody, seem unusually difficult, and respond to your attention.*

Developmental delay was indicated by a child's mental and motor scores from the *Bayley Scales of Infant Development* or the *Stanford-Binet Intelligence Scale.* In addition, an overall measure of developmental delay was created because (a) this measure accommodated the use of the two different tests; (b) *Bayley* conversion tables did not include scores below 50, and several children fell below this score; (c) many children had delays in either cognitive or motor functioning or both, and the higher of the mental or motor scores could be used to indicate the extent of disability; and (d) the test results indicated global functioning, exact scores often being invalid for children with severe disabilities (Fotheringham, 1983; Gerken, 1983). An overall score of 4 was assigned to IQ scores of 90 or above, of 3 to scores between 68 and 89, of 2 to scores between 51 and 67, and 1 to scores less than or equal to 50. This measure of overall delay was positively related to the functional status measure $\chi^2(12, N = 104) = 43, p < .001$.

Family Needs and Functioning. Family needs were measured by an abbreviated 23-item version of the *Family Needs Scale* (Dunst, Trivette, & Deal, 1988) assessing the frustrating demands experienced by caregivers and their families. These items focused on basic resources, personal support, financial and medical resources, and employment needs. Caregivers were asked how often they and other family members needed help or assistance with, for example, money to buy necessities and pay bills. Responses ranged from *almost never* to *almost always* on a 5-point Likert-type scale. The scale in this study had an alpha coefficient of .93. The unabridged *Family Needs Scale* was established with a sample of parents of preschool and elementary-age cognitively impaired and at-risk children, and it has been correlated with measures of personal well-being, locus of control, and other dimensions of intrapersonal functioning (Dunst, Trivette, & Deal, 1988).

Family functioning was measured by the *McMaster Family Assessment Device* (FAD; Epstein, Baldwin, & Bishop, 1983; Miller, Bishop, Epstein, & Keitner, 1985), a self-report instrument consisting of seven subscales. Each subscale had 5 to 12 items assessing (a) problem solving (the family's ability to solve problems at a level that enabled maintenance of effective functioning); (b) communication (the family members' abilities to be clear and open in sharing information with each other); (c) roles (the specific behaviors that members perform to accomplish everyday tasks and maintain the family); (d) affective responsiveness (the readiness of family members to experience emotions and respond appropriately to a variety of stimuli); (e) affective involvement (the readiness of family members to support and help one another); (f) behavior control (the clarity of the standards and norms that govern both everyday behavior and the handling of emergencies); and (g) global family functioning. Participants rated statements about their families, indicating how strongly they agreed or disagreed on a 4-point Likert-type scale (Epstein et. al., 1983). The FAD has been used with families from diverse socioeconomic status groups who had children with disabilities or chronic illness (Maziade, Bernier, Thivierge, & Cote, 1987) and has been found to have good internal consistency, test–retest reliability, and validity (Byles, Byrne, Boyle, & Offord, 1988; Epstein et al., 1983; Kabacoff et al., 1990; Miller et al., 1985; Sawyer, Sarris, Baghurst, Cross, & Kalucy, 1988). The subscales measuring different dimensions of family functioning all had acceptable alpha reliability coefficients (ranging from .70 to .88) except the Roles subscale. The Roles subscale was therefore dropped from the study. Given that the subscales were correlated ($r = .53–.68$, $p < .001$) and that there were no hypotheses specific to any one family dimension, the averages of each of the subscales were combined, resulting in an overall, average measure of family functioning needs. A lower score indicated greater needs for family support and more difficulties in family functioning.

Caregiver's knowledge of child development was assessed using the *Knowledge of Child Development Scale* (King & Fullard, 1982). The scale was shortened to reduce overlap among items and to decrease administration time. There were 23 true/false items, scored zero or one; the scale originally had 36 items. The alpha reliability coefficient in this study was .63. The scale measured knowledge of average child development, behavioral expectations, and child management/discipline procedures. It was written at a sixth-grade reading comprehension level. A low score was indicative of less knowledge of child development and subsequently greater caregiver/parenting education needs.

Caregiver conflict and hassles with important kin and kith was assessed with the combined Conflict and Hassles subscales from the *Network of Relationships Inventory* (Furman & Buhrmester, 1985). Caregivers identified up to eight kin and kith who were "important" to them. Interviewers probed for inclusion of the baby's father and/or mother's romantic partner, aunts, brothers, sisters, uncles, cousins, and child's grandmother. Six questions were then read to caregivers, who were given a response booklet from which to choose an answer for each question. Responses to each question were on a 5-point Likert-type scale, ranging from *little or none* (1) to *the most* (5). Questions included the following: "How much do you and ______ get upset with each other? How much do you and ______ disagree and quarrel with each other? How much do you and ______ argue with each other?" A mean score of the ratings for up to eight persons was calculated. The alpha reliability coefficient was .84.

Caregiver/parent–child interaction needs were inferred from the quality and appropriateness of caregiving behaviors observed with the *Parent/Caregiver Involvement Scale* (PCIS; Farran, Kasari, Comfort, & Jay, 1986). When the PCIS was administered, the caregiver was provided with a standard set of toys selected for different developmental age levels and was asked to play with the child for 15 minutes as she normally would without the presence of an observer. Another 5 minutes were spent in cleanup activities. The entire 20-minute play session was videotaped and then coded by two different coders. Eleven behaviors were rated on (a) quality of involvement (i.e., the degree of warmth and acceptance shown in the caregiver's behaviors) and (b) appropriateness of involvement (i.e., how closely the caregiver's behaviors were matched to the child's development, interest level, and motoric capabilities). The 11 behaviors rated included (a) physical involvement, (b) verbal involvement, (c) responsiveness to child, (d) play interaction, (e) teaching behavior, (f) control over child's activities, (g) directives, (h) sequencing among activities, (i) positive statements, (j) negative statements and discipline, and (k) goal setting. Each rating scale was behaviorally anchored at odd intervals along a 5-point rating scale, 5 being the highest score. The rating scale was designed to allow observers to take into account the context of behaviors. The quality and appropriateness subscales were highly correlated ($r = .90$), so these scores were combined into a composite parent–child interaction index. A low score indicated greater caregiver need for nurturing and responsive interaction with the child. The alpha reliability coefficient was .92. Interrater reliability was .88 with two coders who were not involved in interviews with caregivers. According to studies reported by Farran et al., the PCIS is relatively free of socioeconomic bias and is a valid instrument for use with low-income and handicapped populations and with both European American and African American populations (Comfort, 1988; Farran, et al., 1987; Huntington, Simeonsson, Bailey, & Comfort, 1987; Towle, Farran, & Comfort, 1988).

Caregiver/Parenting Stress. The overall level of parenting stress experienced by the caregiver was assessed using the *Parenting Stress Index–Short Form* (PSI; Abidin, 1995). The short form of the PSI had 36 items on three subscales drawn from the standard form: Parent Distress (12 items, e.g., "trapped by responsibilities as a parent"), Parent–Child Dysfunctional Interaction (12 items, e.g., "child smiles at me much less than expected"), and Difficult Child (12 items, e.g., "child is easily upset"). Participants responded to questions using a 5-point Likert-type scale ranging from *strongly agree* (1) to *strongly disagree* (5). A total parenting-stress score was computed by summing the three subscores; intercorrelations among subscales ranged from $r = .53$ to $r = .64$, $p < .001$. No specific hypotheses were made regarding subscales, so this total score was used in analyses (alpha reliability coefficient = .91). The measure has proven reliability and validity and has been found to discriminate between levels of parental distress and to predict dysfunctional parenting behavior (Abidin, 1995; Bhavnagri, 1999). Within a low-income population, the measure is a valid global index of stress experienced as a parent (Dumas & Wekerle, 1995; Park & Unger, 2001).

Caregiver Perceptions of Supportive Program Climate. Supportiveness of the child's teacher toward the caregiver was assessed using a measure adapted from the *Network of Social Relationships Inventory* (NSRI; Furman & Buhrmester, 1985). The modified version of the NSRI included 15 questions assessing instrumental support, informational support, admiration/respect, and closeness, yielding a sum score. The measure had an alpha reliability coefficient of .86. The questions were read to caregivers, who were given a response booklet and asked to either point to or tell their responses. Responses were on a 5-point Likert-type scale, but the response anchors differed, depending on how the question was worded (e.g., 1 = *little or none,* 5 = *the most,* or 1 = *little or not satisfied,* 5 = *the most*). Examples of items included "How much does _____ help you get things you or your child needs, such as _____? How much do you feel let down, get upset, or disagree with _____? How much does _____ give you information about disciplining, caring for your child, or services that would help your family? How satisfied are you with your relationship with _____?"

Program climate was measured using a 4-point Likert-type scale (1 = *strongly disagree* to 4 = *strongly agree*). At the second caregiver interview, after several months of the child attending the EIP, caregivers were asked about the extent to which they agreed or disagreed with 12 statements about how welcoming they felt the program was toward parents/caregivers. These items were adapted from the Supportive Behavior subscale of the *Organizational Climate Description Questionnaire for Elementary Schools* and from the Teacher Affiliation and Collegial Leadership subscales of the *Organizational Health Inventory for Elementary Schools* (Hoy, Tarter, & Kottkamp, 1991). These subscales focused on teacher assessments of supportive dimensions of an elementary school environment. Items were adapted for use with parents and early intervention centers. Items included "School staff listen to and accept parents' suggestions," "School staff are friendly and approachable," and "School staff go out of their way to help parents." The measure had an alpha reliability coefficient of .89 in this study.

Caregiver/Program Involvement. An overall average score of enhanced activities was calculated for this study by averaging the mean number of different types of enhanced activities that occurred over the period of the project between the caregiver and up to four staff at any one data collection point (which occurred every 6–8 weeks). The measure focused on enhanced contacts. Routine or required contacts—for example, contact necessary for signing forms or paperwork, required attendance at the Individualized Family Service Plan/Individualized Education Program meeting, or contact to request that the parent bring extra clothes or other materials for the child—were recorded but not included in this measure. Staff checked the occurrence of activities from a list on an RCSI that included (a) joining in a teaching activity, (b) joining in a speech/language therapy activity, (c) taking child for an evaluation, (d) attending a parent education group, (e) attending school social meeting for parents, (f) participating in practice exercises with the staff member, (g) discussing the child's medical or developmental needs, and (h) "other." Under "other," staff wrote in activities that were not listed explicitly. Responses under "other" included discussing child's education and/or child's prognosis with staff member, requesting program information, receiving information and referrals for community services, and receiving support or counseling. The number of enhanced contacts recorded on any one form ranged from 0 to 6, with an average of .83 ($SD = 0.96$). Over the course of the study, 1,501 RCSIs were completed by EIP staff, with an average of 14.43 ($SD = 4.39$) completed for each caregiver.

The types of staff completing the RCSI data forms were representative of the staff at the EIPs: 35% of the forms were completed by teachers, 23% were completed by social workers or parent coordinators, 18% by specialists, 9% by administrators, and 15% by other staff in contact with the caregivers. As would be expected with a measure of enhanced contacts, family services coordinators, social workers, and teachers reported more enhanced contacts with caregivers than did other staff (e.g., administrators, directors, paraprofessionals; $\chi^2(1, N = 1501) = 77.00, p < .001$). Occasional phone contacts were made with caregivers to provide further confirmation that the RCSI was accurately recording enhanced contacts. There was a high level of agreement between staff reports on the RCSI and caregiver reports by telephone. The measure was also correlated with parents' reports of how often they had contact with their children's teachers (based upon a single item question asked at the second interview; $r = .24, p < .05$).

Qualitative data were obtained by interviews of center administrators' perceptions regarding caregiver involvement and the level of family-centeredness practiced in their programs. In the context of questions about the centers, opportunities for involvement, and characteristics of caregivers involved in the centers, directors were asked, "What does 'family-centered' mean to you?" Responses were then transcribed and reviewed for thematic content. Staff were also asked to note events on the RCSI forms that affected involvement.

RESULTS

Children in this study varied in regard to age and reason for needing services (i.e., their levels of developmental functioning). Therefore, the contributions of these characteristics for explaining caregiver involvement were assessed prior to addressing the study's major research questions. A Pearson correlation indicated that the child's age was negatively correlated with caregiver involvement ($r = -.32, p < .01$). The child's level of developmental delay was not significantly related to involvement, as indicated by the *Functional Status Inventory* or the measure of overall developmental delay. (*Bayley* and *Stanford-Binet* scores were also not significantly related to involvement.) The caregiver's age and education and household income were not significantly related to involvement. Given that the relation between child's age and involvement was statistically significant but not the focus of this investigation, and that the sample size was not large enough to examine groups of children separately by differences in ages, age was subsequently statistically controlled when testing the hypotheses (through the use of partial correlations and entering age as a control variable in regression analyses).

Direct Effects of Family Needs and Functioning

Difficulties in family functioning as measured by the FAD were related to greater caregiver/program involvement ($r = -.26, p < .01$). Knowledge of child development and appropriate expectations were negatively related to contact with the program ($r = -.21, p < .05$). There were no significant direct effects between caregiver–program interaction and family needs, conflict and hassles with kin or kith, or caregiver–child interaction, as shown in Table 2.

Moderating Effects of Caregiver/Parenting Stress

Moderating effects of caregiver/parenting stress with family-needs-and-functioning variables in explaining caregiver/program involvement were tested. A moderating effect was indicated by a significant interaction in a regression model. Variables were first centered by subtracting their means; centering helps to minimize problems of multicollinearity (Aiken & West, 1991). Interaction terms were then produced by multiplying parenting stress with the specific family-needs-and-functioning-variable. The moderating effect was tested with full simultaneous regression models. Main effects were entered, followed by the interaction term; child's age was included in the models as a control variable.

As hypothesized, caregiver/parenting stress moderated the relation of caregiver/parent–child interaction with caregiver/program involvement (see Table 3). To understand the nature of the interactions, simple slopes were examined by looking at the effects of caregiver/parent–child interaction on caregiver/program involvement at high and low levels of caregiver/parenting stress (Aiken & West, 1991). Caregivers with less quality and appropriateness in caregiver/parent–child interaction were more apt to be involved in the program when they felt greater stress. Caregiver/parenting stress was not a significant moderator between the other family needs and functioning variables (i.e., family needs, family functioning, conflict with kin or kith, knowledge of child development) and caregiver/program involvement.

TABLE 2. Partial Correlations Between Variables, Controlling for Child's Age

Variable	2	3	4	5	6	7	8	9
1. Family functioning	.23*	–.28**	–.33**	.04	15	.23*	–.40***	–.26**
2. Knowledge of development	—	–.16	–.13	.21*	–.06	.06	–.21*	–.21*
3. Family needs		—	.19	.05	.10	.02	.39***	.17
4. Conflict and hassles with kin/kith			—	–.24*	.07	–.01	.22	.15
5. Caregiver/parent–child interaction				—	.04	–.11	–.09	.07
6. Teacher support					—	.27**	–.22*	.24*
7. Program welcoming climate						—	–.23*	.06
8. Caregiver/parenting stress							—	.20*
9. Caregiver/program involvement								—

*$p < .05$. **$p < .01$. ***$p < .001$.

TABLE 3. Simultaneous Multiple Regression Testing Moderating Effect of Caregiver/Parenting Stress

Variable	Unstandardized β	Standardized β	T
Child's age	–.02	–.30	–3.12**
Caregiver/parent–child interaction	.09	.10	1.03
Caregiver/parenting stress	.03	.14	1.48
Caregiver/parent–child interaction × caregiver/parenting stress	.08	.24	2.49*

Note. Overall model was significant ($R^2 = .16$, $F(4, 98) = 4.66$, $p < .01$). Variables were centered.
*$p < .05$. ** $p < .01$. ***$p < .001$.

Moderating Effects of Perceptions of Supportive Organizational Climate

Moderating effects of caregiver perceptions of a program as being welcoming and supportive of caregivers were tested next. As shown in Table 4, perceptions of organizational climate moderated the relation between caregiver/parent–child interaction and caregiver/program involvement. Caregivers with greater difficulties in caregiver/parent–child interaction were more likely to be involved when they perceived the program as welcoming and supportive.

Perceptions of a welcoming program climate also moderated the relation between conflict with kin or kith and caregiver/program involvement (see Table 4). Regression lines showed that greater caregiver/program involvement occurred for caregivers with kin or kith conflict who perceived the EIPs as parent-friendly. Perceptions of a welcoming program climate moderated the relation between family needs and caregiver/program involvement. Greater caregiver/program involvement occurred for families with greater needs when the program was perceived as supportive of caregivers (see Table 4). Perceptions of organizational climate had no significant moderating effects for family functioning or knowledge of child development.

The moderating role of teacher support, the other variable assessing the caregiver's perception of the supportiveness of the program, was tested next. The relation between kin or kith conflict and caregiver/program involvement was moderated by support from the child's primary teacher (see Table 4). Regression lines showed that greater caregiver/program involvement occurred for caregivers with kin or kith conflict who perceived the children's primary teachers as supportive.

TABLE 4. Simultaneous Multiple Regressions Testing Moderating Effects of Caregiver Perceptions of Supportive Program Climate

Variable	Unstandardized β	Standardized β	T
Family needs × program welcoming climate[a]			
Child's age	–.02	–.31	–3.33**
Family needs	.09	.13	1.39
Program welcoming climate	.01	.13	0.82
Family needs × program welcoming climate	.03	.26	2.81**
Caregiver/parent–child interaction × program welcoming climate[b]			
Child's age	–.02	–.24	–2.51**
Caregiver/parent–child interaction	.02	.10	1.02
Program welcoming climate	.01	.09	0.88
Caregiver/parent–child interaction × program welcoming climate	–.01	–.25	–2.48*
Conflict with kin/kith × program welcoming climate[c]			
Child's age	.02	.24	3.18**
Conflict with kin/kith	–.07	–.10	–.74
Program welcoming climate	–.01	–.17	–.72
Conflict with kin/kith × program welcoming climate	.04	.19	2.52*
Conflict with kin/kith × teacher support[d]			
Child's age	.02	.24	2.58*
Conflict with kin/kith	–.11	–.10	–1.10
Teacher support	–.15	–.17	–1.72
Conflict with kin/kith × teacher support	.20	.19	2.00*

Note: Variables were centered.
[a]R^2 = .19, F(4, 98) = 5.75.*** [b]R^2 = .13, F(4, 98) = 3.65.** [c]R^2 = .17, F(4, 99) = 5.13.*** [d]R^2 = .20, F(4, 99) = 6.30.**
* $p < .05$. ** $p < .01$. *** $p < .001$.

There were no significant moderating effects of teacher support with the other family-needs-and-functioning variables (i.e., family functioning, knowledge of child development, family needs, caregiver–child interaction). However, support from the child's teacher did have a direct, positive association with caregiver/program involvement. Caregivers who felt greater support from their children's primary teachers were more likely to be involved with their children's programs (r = .24, $p < .05$, controlling for child's age).

ADDITIONAL CONTEXT FOR CAREGIVER/PROGRAM INVOLVEMENT IN ENHANCED ACTIVITIES

The moderating and direct effects found in this study occurred within the context of indirect relations between predictor variables and caregiver/program involvement. As shown in Table 2, predictor variables were significantly intercorrelated. There were significant correlations of variables assessing family functioning with variables assessing perceptions of program supportiveness. Similarly, there were significant correlations of variables assessing perceptions of parenting stress with those assessing family functioning.

Director interviews and comments from staff provided further information about contextual influences on involvement. Although all programs in the study were "family-centered" and all staff believed they had an organizational climate that was supportive of caregivers, there was still diversity among the programs. All directors believed it was important for their programs to involve families and to provide families with support. However, there were three distinct emphases on how to be "family-centered." Some directors (42%) said this meant meeting basic needs of caregivers first because only then would the program be best able to meet the needs of children they were serving. They described family-centered practice as working best with caregivers when teachers, for example, "understand how important the family is to the whole process . . . and combine their educator roles with 'social work' or 'case management.'" Other directors (33%) believed "family-centered" meant that families should be respected and feel welcome to share their needs and concerns with the program. Last, some directors (25%) said "family-centered" meant including families in all processes, decisions, and planning for the children—making parents "part of the team."

Although caregivers in circumstances that made it physically impossible for the child or caregiver to be at the program were excluded from this study, included caregivers still had a great deal of stress in their lives. Open-ended responses, coded from the RCSI, indicated that at least 66% of the caregivers experienced stressful events that interfered with their ability to regularly attend their children's programs. These events included a family illness (39% of caregivers had children who were ill or hospitalized; 31% were ill or hospitalized themselves); personal or family problems (34%); daily family-living or financial problems such as transportation problems, phone disconnection, or housing and childcare needs (27%); competing demands from work, school, or social-service or medical appointments (25%); a move with consequent difficulty getting their children to the program (10%); and a death in the family (9%).

DISCUSSION

The results of this study address important issues about involvement of low-income single caregivers with staff of early intervention programs. First, difficulties in family functioning and lower levels of knowledge about child development were directly related to caregiver/program involvement. These findings confirm that if low-income single caregivers are experiencing family difficulties and early intervention programs reach out to these families, caregivers are more likely to become involved and use the services of these early intervention programs. These results are consistent with other researchers who have found that early intervention programs are most effective with children in families that have the greatest needs (Bradley et al., 2001; Green et al., 1998; Parker et al., 1997).

Our findings build upon prior research indicating that caregivers experiencing family problems may participate less frequently in early childhood programs (e.g., Eisenstadt & Powell, 1987). In fact, anecdotal reports from early-intervention staff in this study also confirmed this observation. We suggest that the daily stresses experienced by low-income single caregivers serve as a barrier to *frequent and regular* contact with staff. At the same time, greater family problems and needs increase the likelihood that caregivers will participate in a greater number of enhanced activities over time. Of course, if family problems are so disruptive that the caregiver or child is unable to attend the program at all, then little or no involvement can be expected.

Second, family characteristics alone did not adequately explain caregiver/program involvement. Explanations of involvement need to take into account moderating influences such as stress and the program's climate. Stress, for example, acted in combination with family characteristics in determining caregiver/program involvement. Caregivers who lacked responsive and appropriate parenting behaviors were more likely to be involved with their children's programs when they were also experiencing parenting stress. Perhaps difficulties in parenting do not trigger a need for EIP assistance with caregivers who are living in poverty and struggling with many demands and obstacles. However, when the severity of the situation is heightened due to greater stress, caregivers are more apt to seek services.

A program's climate was also important in moderating the relation of family characteristics to caregiver/program involvement. Caregivers experiencing family difficulties due either to problems with meeting their daily needs and responsibilities or conflicts with significant others in their social networks were more involved with their children's programs when they perceived that the programs would be supportive and respectful of them. Perhaps caregivers are not apt to turn to EIPs for help if they do not view them as potentially responsive to and respectful of their concerns. In this way, they avoid the risk of rejection and criticism by the program and the feeling of putting aside their self-sufficiency. Participants in this study, like many low-income minority caregivers, have experienced discrimination and poor service by public agencies, and they tend to be leery of turning to outsiders for help (McKinney & McDonald, 1997).

Although only a moderating effect was hypothesized for teacher support, perceiving support from the child's teacher was also directly related to caregiver/program involvement. This is highly consistent with practice guidelines emphasizing the importance of quality interpersonal interactions in developing effective provider–family partnerships (Epps & Jackson, 2000; Kalmanson & Seligman, 1992). Parents value honesty, a nonblaming attitude, supportiveness, and inclusion in decision-making in their relationships with professionals (Friesen, Koren, & Koroloff, 1992). When they perceive these qualities are present, they are more apt to become involved.

Although child characteristics were not a focus of this study, it was unexpectedly found that caregiver involvement was greater when children with disabilities were younger, regardless of the caregiver's age. We believe that the child's chronological age is not the best explanation for this finding. Instead, age is a proxy for events occurring at the time when a low-income single caregiver enrolls a child in an early intervention program for the first time. Caregivers who sought out early intervention services for children when they were younger were perhaps more open to viewing the program as a source for family assistance. Studies of support programs for parents find that parents are more likely to participate when they perceive more need for services and have not already developed their support systems for parenting (Olds, 1997; Unger & Wandersman, 1988). In situations in which children were first enrolled in the program at an older age, caregivers may already have accessed coping resources for themselves and entered the program interested in child-oriented services. In these situations, caregivers would perceive the child's disability as the reason for services, rather than to assist the family (McWilliam, Tocci, & Harbin, 1995). Further research is needed to clarify the meaning of this finding.

The extent of the childhood disability, as measured in this study, was not associated with program involvement. Previous research has also failed to find a relation between infant health status and family participation in early intervention services (Ramey et al., 1992). This finding, however, should be interpreted cautiously, because the child assessment data in this study only provided a general index of functioning. Differences in involvement that may be related to distinct types of disabilities could not be addressed.

In summary, this study points to the complexity of low-income single caregiver involvement in urban early intervention programs. Direct and moderating processes were identified that explained caregiver/program involvement. The findings suggest that there may be indirect effects as well. Bidirectional effects are also likely. For example, although family characteristics may influence involvement, caregiver/program involvement, in turn, might affect family functioning, parenting stress, and a caregiver's perceptions of a program.

Further research is needed to develop a model of caregiver/program involvement that takes into account not only the predictors of involvement included in this study but additional dimensions as well. For instance, stressful life events affect whether caregivers even have the opportunity to become meaningfully involved in their children's programs. Involvement also is likely to change over time for some caregivers while remain stable for others. Little is known about caregivers who are more likely to have a pattern of consistent ongoing involvement, compared with caregivers who find regular involvement too difficult or undesirable for some other reason (Fantuzzo, Lamb-Parker, Watson, & Christenson, 1999).

Studies need to include multiple ways in which caregivers can be involved in early intervention programs (Fantuzzo, Tighe, & Childs, 2000). Grolnick and Slowiaczek (1994), for example, suggested that in addition to involvement in activities at a school program, caregivers may demonstrate their involvement by providing learning opportunities at home and in the community. They also may stay informed about the child's needs and the services without personally participating in activities. A greater number of programs, including programs that use distinct methods of family-centered practice, need to be included in future research to better understand the complex interaction between program and family characteristics. Finally, research is needed to evaluate methods of staff training that effectively promote collaborative relationships between low-income single caregivers and early childhood programs.

Several issues merit attention in reviewing the results of this study. A strength of the study was the use of multiple methods of data collection and multiple reporters. The data about caregiver involvement were collected over time, did not rely upon parental self-report, and avoided monomethod bias. The records of staff contacts with caregivers appeared valid and compared favorably with parent reports of their contacts; however, the recordings made by staff did involve inevitable biases in the recall of discrete contacts with caregivers. The findings are primarily relevant to programs endorsing family-centered practices and to center-based programs with opportunities for caregiver involvement. In programs that are more exclusively child-oriented, the predictors of caregiver/program involvement found in this study may not apply. The findings may not generalize to two-parent or middle class families or to caregivers of children who had previously been enrolled in a different early intervention program. Focus on a limited age group and modest sample size precluded looking at subgroups of parents or children.

IMPLICATIONS FOR PRACTICE

The findings have programmatic implications. The importance of a family-centered practice for involving low-income single caregivers is supported by this research. Assessing family functioning and needs along with the caregiver's level of stress may help staff engage caregivers in supportive working relationships. These assessments, though, need to recognize the diverse needs and life circumstances of single caregivers (Jones & Unger, 2000). For example, for some caregivers who are experiencing significant family-functioning difficulties, providing supportive, respectful, and responsive services is likely to promote their involvement and positive relationships with staff. For other caregivers, however, concerted outreach efforts may be needed in order to help caregivers recognize the need for and availability of assistance and to develop trust that the program will be responsive to their concerns. Staff need to respect the decisions of still other caregivers to not become involved in the early intervention program, even in the face of significant family needs. There may be important moderating factors that are influencing the caregiver's choice to postpone or forego involvement in center activities for reasons that may be unknown by staff.

Another important implication is that centers need to clearly articulate their approach to family involvement and to ensure that program philosophies are consistent with the practices of staff and policies of the program. Centers in this study interpreted and implemented a family-centered philosophy in different ways. Clear communication to caregivers of the specific center's family-centered practices and family support services may foster greater caregiver involvement (Bernstein & Martin, 1992; Collins & Collins, 1990; Stephenson, 1992).

The teacher's relationship with the caregiver is important to the caregiver and appears equally critical to the ability of the program to provide effective services to single caregivers. Although teacher support did moderate the role of family characteristics, teacher support alone was also predictive of involvement, in that caregivers who perceived their children's teachers as being supportive and respectful were more apt to be involved. Program policies should ensure that teachers are provided with ample opportunities to interact with parents in ways that nurture supportive and collaborative relationships. A range of opportunities are needed that fit family schedules and transportation resources so that caregivers have access to teachers and can develop good working relationships with them.

While this study did not include caregivers who were unable to sustain involvement over the course of the study due to severe circumstances, caregivers in our sample were still experiencing a great number of stressful events. A focus on the strengths and coping skills that these families draw upon to maintain some type of involvement in the context of these stressors may assist staff in developing relationships with caregivers. ◆

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