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The Relationship Between Parents and Teachers of Young Children With Disabilities
and Outcomes for Children and Families

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Abstract

The importance of the relationship between parents of young children with disabilities and their child's teacher was explored with a sample of 27 children. A structured interview was used with parents, including scales to measure stress, severity of the disability, social support, expectations for their child's progress, and their relationship with the teacher and school. Teachers completed a questionnaire that included scales to measure their relationship with the child, how prepared they felt to work with the child, their expectations for child progress, and their relationship with the parents. Three months later parents and teachers assessed gains on the part of the child. A model was proposed showing hypothesized causative relationships among these variables. The central hypothesis that the relationship between parents and teachers influences the child's educational/developmental progress was largely supported. In addition, path analyses showed that this relationship influences the parent-child relationship and the teacher-child relationship. Suggestions are offered for strengthening the parent and teacher relationship.

The Relationship Between Teachers and Parents of Young Children With Disabilities and Outcomes for Children and Families

Having a child with disabilities is generally recognized as a stressful experience for families (Dyson, 1993). As all children at times create stressful situations for their parents, it is logical that this would be so for a child with disabilities (Rousey, Best, & Blacher, 1992). According to Trout and Foley (1989), parents may be disappointed, angry, and confused by their child's disability. They may experience guilt, a sense of loss, and information overload. Parents may experience a unique set of needs in relation to parenting a child with disabilities (Able-Boone, Sandall, Stevens, & Frederick, 1992), including special needs for information, support, advice, access to resources, and opportunities for social interaction (Burden & Thomas, 1986).

However, while some studies have suggested the blow of such a birth may be so overwhelming that parents and families rarely recover, others have demonstrated the capacity of many parents to make healthy adjustments (Burden & Thomas, 1986). One way to understand the nature of the adjustment made by parents is by application of models of stress (Orr, Cameron & Day, 1991; Zeitlin, Williamson, & Rosenblatt, 1987; Park & Folkman, 1997). The first step is to look at the family's perception of the event. What meaning does the family attach to their child's disability, its cause, and what are their convictions regarding their ability to be effective in raising the child? These perceptions are mediated by socioeconomic-economic class, intelligence, verbal skills, morale, personality characteristics, past experience, age, occupation, and income (Gallagher, Beckman, & Cross, 1983). The second step in the model is an assessment of family resources, both internal and external (Lazarus & Folkman, 1984), for dealing with the event, as perceived. The final step in the model is the outcome. Turnbull (1988) emphasizes that raising a handicapped child is a long term, or marathon, activity. "The real issue for families . . . is to be able to remain intact as a family over time, meet the developmental needs of the child over time, and develop the kinds of relationships that remain resilient and vital over time" (p. 263, italics in original). Meeting these needs will involve both the nature of the perceptions of the stressor, and the kinds of resources, including social support, available.

The role of social support in assisting individuals and families in times of stress is well established (Greenblatt, Becerra, & Serafetinides, 1982; Kane, 1988; Hartshorne, 1991). Researchers have also investigated the nature of various networks of support and how they function in providing assistance. According to Dunst, Trivette, and Cross (1986), “There is general consensus among social systems theorists that social support networks function to nurture and sustain linkages among persons that are supportive on both a day-to-day basis and in times of need and crises” (p.403). These researchers found the presence of supportive social networks for parents of children with disabilities to be associated with better personal well-being, both emotional and physical. Most impressively, children with disabilities of parents with supportive social networks were more likely to make developmental progress over the course of a year. In addition, parents with more supportive networks perceived their children as having fewer physical limitations, being more socially accepted by others, and having fewer negative behavior and personality characteristics.

In an influential book, Bronfenbrenner (1979) strongly advocates for research on child development which is ecologically based. He points out that while it is commonplace to assert that “human development is a product of interaction between the growing organism and its environment . . .(p. 16)”, it is rare to find research that takes this principle fully into account. This is because of the complexities involved. This point is echoed by Landesman and Ramey (1989): “Conceptually, psychology has dichotomized individual and environmental characteristics in a way that may obscure understanding the complex interdependencies that exist and evolve” (p. 413). They suggest that if problems arise for a child with disabilities, the problems are unlikely to reside in the child alone, but need to be sought in the environment, or, importantly, in the transactions between child and environment. One could add that they may reside as well in the transactions between portions of the environment, such as between home and school.

It is obvious that families do not exist in isolation, but are enmeshed in social networks (Comer, 1984). In most communities, services to handicapped individuals are offered from a number of sources, such as the schools, medical practices, mental health, etc. To varying degrees those individuals and organizations providing such services may network with each

other in an effort to coordinate, expand, or enrich what is provided. Parents of children with disabilities may also link together both formally (e.g., support groups) and informally. Often these networks are accessed when parents are making decisions concerning services for their child, and need information about the options available. These networks tend to have fairly well defined biases about non-network members. Because schools have come to play such an enormous and varied role in the lives of children with disabilities, very strong network biases about schools and school personnel inevitably exist. In addition, when schools reflect the larger societal culture, as they do in most Western cultures, it would not be surprising to find home-school conflicts (Comer, 1984).

A considerable body of literature indicates that parental involvement with the school has positive benefits for the child's education (Henderson, 1989). However, little research has focused on the mutual effects of home and school influences on student performance (Christenson, Rounds, & Franklin, 1992), and even less (if any) has examined the mutual effects of home and school on each other. Christenson, Rounds, and Gorney (1992) reviewed the literature on the influence of various family factors on the child's school achievement, which is a start in the right direction, but studies are also needed that look at how various school factors influence the child's behavior at home. If school personnel are a part of the social support network for the family, they should have an important influence on family functioning.

The primary goal of this project was to examine the relationship between parents of children with disabilities and the child's teacher, and how this relationship might impact on the child's developmental progress. The importance of home-school collaboration is well accepted (Christenson & Conoley, 1992). However, "although there is strong interest in partnerships, the field is characterized more by rhetoric than reality" (Christenson, Rounds, & Franklin, 1992). Part of what is needed is more evidence of the benefits of this partnership.

When one speaks of a partnership between home and school, it is the relationship between teacher and parent that is most critical. Certainly other school personnel are involved and facilitate or detract from the partnership, but without the teacher and the parent working together, nothing else is likely to be as effective. Thus the present study examines this critical relationship, but also considers the entire school context and its support of parents and families.

Review of the Literature

This review is divided into four sections. To begin with, a relationship model will be presented in order to provide a theoretical context for understanding the importance of the teacher and child relationship. Then the literature regarding three major relationships that impact on the child are reviewed. The first concerns the relationship between parent and child, and its possible significance for school learning. The second reviews the teacher and child relationship and its impact on school outcomes. The third examines the relationship between parent and teacher.

Relationship Model

The theoretical basis for the relationship model comes from the theory originally developed by Alfred Adler (Manaster & Corsini, 1982). This orientation views human behavior as influenced by the self-perception of one's position within social settings. People want to experience a sense of belonging in social settings, and will generally direct their behavior to provide themselves with some social standing. This behavior may be positive in the sense that it is found useful by the group, it may be negative in the sense that it is counterproductive for the group, or individuals may even engage in behavior that excludes them from social interaction. But in each case, the behavior represents how the individual feels they must behave in order to have a position vis-à-vis society.

People bring to marriage their experience of being a part of numerous groups, the family of origin being the most significant. Learning to find a positive sense of belonging with their partner is one of the more significant challenges of marriage. As children enter into this family, the nature of the group changes, as each member attempts to find cooperative patterns of interaction. People tend to carry over into other social settings the behavior they develop within the family. A child may learn to have standing within the family by helping around the house. Or this child may find their standing by rebelling against helping. The choice the child makes will depend on their interpretation of the feedback they receive from other members of the family, particularly the parents. The child will then take this behavior to other social settings such as school.

The feedback received by a child with a disability will be influenced by the attitudes held by the rest of the family regarding disabilities, which are shaped in part by how they perceive the child affecting their individual and collective senses of social standing and belonging. The feedback that children with disabilities receive will influence their behaviors, as they seek to have some social standing and a sense of belonging of their own. Children who experience a supportive and encouraging environment are likely to engage in behaviors that lead to greater developmental progress.

This attitude of family members toward the child with disabilities will be influenced by their perception of how their relationship with the child influences their social standing in other social settings. They will be concerned about how this child might affect their belonging and acceptance by others. In other words, parents and siblings will be influenced by the attitudes and beliefs about disability, and about families with disability, that they encounter from other groups and individuals, and this will influence their behavior toward the child with disabilities. In this manner, their attitudes and beliefs will influence the child.

Parents are therefore sensitive to how their family appears to other groups, social and professional. Having a child with a disability is likely to make the parents hypersensitive to feedback from members of other groups. This sensitivity is likely to be particularly acute in relation to those professionals who are called upon to help the family cope with the disability, as this feedback comes from persons who may be very influential in terms of how well the child does in life.

Professional helpers are also persons who are sensitive to their position within social settings. This has been shaped in part by their experience with their own families. In serving a family with a child with disabilities, there is a natural concern with how they may be able to join with that family, and how the family will respond to them. When helpers perceive themselves as being positively joined with the family to serve the child, it is likely that their behavior will be influenced by this self-perception, and that they will work in a more effective manner. This should strengthen their relationship with both the child and the parent. When the parent experiences a positive relationship with the professional, this should positively influence the

parent's self-perception as a parent of a child with disabilities, which is likely to positively affect their interactions with their child.

The above analysis would suggest that when parents and professionals are able to form positive relationships with one another, the child will benefit from greater effectiveness on the part of both parent and professional. This model is reflected in Figure 1. Three major relationships are indicated: parent-teacher in the middle, parent-child to the left, and teacher-child to the right. Lines with arrows indicate directions of influence. By influencing their sense of social standing and belonging as parents of a child with disabilities, the parent-teacher relationship should influence the quality of the parent-child relationship. By influencing their sense of social standing and belonging as teacher professionals who try to influence the development of the child, the parent-teacher relationship should influence the quality of the teacher-child relationship. In addition, by creating positive (or negative) social relationships where parents and teachers feel effective in working and raising the child, all three relationships should influence the progress the child makes. The literature supporting this will be reviewed in sections below.

The parent-teacher and parent-child relationships are also influenced by the social support experienced by the parent. This is shown in Figure 1 by the arrows from "social support". Social support makes parents feel more accepted by those groups and people who are important to them, and reduces the amount of stress they experience in their relationship with their child (Dunst, Trivette, & Cross, 1986; Frey, Fewell, & Vadasy, 1989). By experiencing the benefits of social support from other sources, parents may also be more likely to accept support from additional sources, like the teacher. Greater social support helps parents to be more optimistic about their child, and have higher expectations for their child's progress (the arrow from social support to expectations). Greater social support, higher expectations, and a more positive (less stressful) relationship with the child should lead to greater academic/developmental progress for the child (Dunst, Trivette, Hamby, & Pollock, 1990; Christenson, Rounds, & Gorney, 1992), as indicated by the arrows to outcomes in Figure 1.

The teacher's sense of their own preparation in relation to working with the child should contribute to their sense of adequacy in relationship to both the parents and the child, and will

therefore serve to improve the teacher-parent relationship, as well as the teacher's relationship with the child, as indicated by the arrows in Figure 1. It should also lead to higher expectations on the part of the teacher for child progress. Greater sense of ability, higher expectations, and a more positive relationship with the child should lead to greater academic/developmental progress for the child (additional arrows in Figure 1).

Parent and Child Relationship

Characteristics of a child's disability might logically create problems for the parent-child relationship (Huebner & Thomas, 1995). Sensory impairments such as visual or auditory difficulties may make communication and feedback difficult. Physical deformities may frighten or repulse a parent. Any impairment may so conflict with the parents' expectations of what their child should be like, that difficulties result.

A considerable literature has developed demonstrating a connection between qualities of the parent-child relationship and success in school. Two major approaches have been taken (Barth & Parke, 1993). One approach has been to look at the security of attachment, primarily in the mother-child relationship. The second has focused more on parent-child interaction styles.

Attachment theory (Bowlby, 1982) concerns the feelings of security a child experiences in relation with the primary caregivers. While generally discussed in terms of infant attachment, Ainsworth (1989) discusses its applicability well beyond infancy. De Ruiter and van Ijzendoorn (1993a) review the literature linking attachment with cognition. They suggest that secure attachment provides a secure base from which to explore the world. In addition, trust in caregivers should make the child more receptive to assistance from their caregivers, and it should enhance the informational flow between them. Finally, the authors suggest secure attachment should be related to enhanced metacognitive processes (thinking about thinking), because the child's model of the world is more secure and consistent. The research reviewed tended to support these suggestions, although there is not much research on the metacognition hypothesis.

Application of attachment to academic performance builds on this literature, based on the principle that schooling/learning is a social process, and attachment is the foundation for

social experience. For example, Bus and van Ijzendoorn (1997) measured attachment in 83 mother-child dyads, and then coded mother-child interaction while reading a picture book. Differences in degree of attachment were related to behaviors such as staying on mother's lap, attention, referencing and acting on the books, and degree of control exercised by the mother. This research demonstrates the importance of attachment for the social experience of learning.

Studies have extended this research into actual school performance. For example, Toth and Cicchetti (1996) examined relationship security in 61 children, 29 of whom were identified as having been maltreated by parents. Dependent measures included externalizing and internalizing symptomatology, ego resilience, social acceptance, and school record (indicators of risk for deficient school functioning). As expected, nonmaltreated children with positive relatedness with their mother exhibited the highest level of functioning on all measures one year after initial identification. Contrary to expectations, maltreated children with nonoptimal relationships with mother performed better than maltreated children with optimal relationships, although the authors find some consistency within attachment theory in terms of defensive processing. Nevertheless, optimal relationship alone was related to ego resilience and school record.

The importance of early parent-child relationship on later school achievement was investigated by Teo, Carlson, Mathiew, Egeland, and Sroufe (1996). They were able to follow 174 at risk children from 12 to 36 months of age through age 16 years. The psychosocial/developmental variables they examined included attachment, autonomous functioning, movement toward self-regulation, home environment, and cumulative maternal life stress. They found a combination of these variables were significantly related to later reading or arithmetic achievement in grades one, three, and six, and then at age 16. These relationships held even when IQ was controlled. Thus the relationship of parent and child would appear to have important implications for later school performance.

Observation of mother-child interaction styles has been another method for examining the importance of this relationship for later achievement. Pianta, Erickson, Wagner, Kreutzer, and Egeland (1990) looked at how global ratings of mother-child interaction at 42 months along with an IQ estimate predicted referral to special education during the first

three years of school. Participants were 151 low income children and their mothers. The interaction measure was based on observation of four problem solving situations where the mother was instructed to teach the child. Significant differences were found such that children who were not referred had higher scores on interaction and intelligence ratings. Child compliance and child intelligence were the two most significant predictors of not being referred.

Two recent studies have looked at parent-child interaction at the time of school entry. Barth and Parke (1993) observed mother-child and father-child interactions during play sessions, and found that length of time in play was associated with the quality of school social adjustment at two weeks and at the end of the first semester. A controlling parent of a resisting or a directing child was negatively related to adjustment.

Pianta and Harbers (1996) observed mother-child interactions in a problem-solving situation at school entry. The observation was the same as used in Pianta, et.al.(1990), and a mother-child competence factor score was derived. This score was significantly related to academic achievement in grades 2, 3, and 4.

There is clear evidence from this literature that the quality of the parent and child relationship has implications for academic progress. Thus it would be particularly important to pay attention to this dimension with children who have disabilities, as they may be particularly at risk for attachment difficulties.

Teacher and Child Relationship

The point is made by de Ruiter and van Ijzendoorn (1993b) that if attachment between parent and child is important, then other attachment relationships are likely to be as well. In fact Howes and Hamilton (1992) have investigated attachment between children and child care teachers, and found that while the nature of the attachment to parent and to teacher are not necessarily the same, they are clearly related. Differences also existed between these relationships, such that children are more likely to cry on separation from their mothers, and to be more demanding with their teachers (Hamilton & Howes, 1992), but it is clear that attachment exists between children and teachers, at least in day care situations.

Pianta and Steinberg (1992) used the Student Teacher Relationship Scale (STRS) (described in detail in the Methods section below) to examine the role teacher and child

relationship plays in kindergarten adjustment. They found these relationships were conceptually similar to parent and child relationships, that they are predictive of child behavior at both home and school, and that the relationship helped to differentiate between retained and not retained children.

Lynch and Cicchetti (1992) speculated that the teacher-child relationship could compensate in some ways for a difficult parent-child relationship. They studied 215 children seven to 13 years old, 115 with a history of maltreatment by parents, and 100 demographically matched. They found that maltreated children were less likely to have positive relatedness with their teachers. However, maltreated children reported more psychological proximity seeking with their teachers, suggesting a possible desire for a positive relationship with an adult.

Birch and Ladd (1997) used the STRS to examine the association of teacher-child relationship with the early school adjustment of 206 kindergarten children. The relationship was associated with academic performance and readiness, loneliness and school liking, and teacher assessment of school avoidance, self-directedness, and cooperative participation.

The previous literature suggests the teacher-child relationship is predictive of a number of academic behaviors. Pianta, Steinberg, and Rollins (1995) investigated the ability of this relationship to change or deflect the course of the child's academic trajectory. They studied children who, based on measures during the Fall of kindergarten, were predicted to have a high likelihood of school failure, and found that those with actual positive outcomes had more positive teacher-child relationships. In addition, children with positive teacher-child relationships in kindergarten had fewer behavior problems and higher school competence in second grade, along with better teacher-child relationships with their second grade teachers.

The teacher-child relationship for children with disabilities has not been investigated, but given potential negative attitudes of some regular classroom teachers toward children with disabilities, it would seem to be a critical variable related to educational and emotional outcomes for these children.

Teacher and Parent Relationship

The importance of the relationship between parent and school for child outcomes is well established (Christenson, Rounds, & Gorney, 1992; Swap, 1992; Vaden-Kiernan, 1996).

Christenson, Hurley, Sheridan, and Fenstermacher (1997) list the following researched benefits of parent involvement: improved grades, higher test scores in reading and arithmetic, improved attitude toward schoolwork, better behavior, higher self-esteem, greater completion of homework, academic perseverance, increased participation in classroom learning activities, fewer placements in special education, greater enrollment in postsecondary education, higher attendance rates, lower dropout rates, fewer suspensions, and greater realization of exceptional talents.

One of the difficulties in this literature is the definition of parent involvement. Stevenson and Baker (1987), for example, asked teachers “To what extent did his/her parents get involved in the activities of the school such as PTO and parent-teacher conferences?” Keith, Keith, Troutman, Bickley, Trivette, and Singh (1993) list four characteristics of school involvement: parental academic aspirations and expectations, participation in school activities and programs, a home structure that supports learning, and communication between parents and children about school. They used a nationally representative sample of 21,814 eighth-grade students to examine the impact of involvement on achievement. Their path analyses found a powerful effect for all academic areas, resulting in part from increased homework completion by students with more involved parents.

Parent-school involvement is not the same as parent-teacher relationship, although parent involvement often leads to more positive perceptions of teachers (Christenson, et.al., 1997). Vickers and Minke (1995) point out that teachers and parents need to share the responsibility for educating and socializing their children, but that this is complicated by the existence of communication difficulties. Teachers, both new and veteran, cite problems with parents as one of their most difficult challenges, while parents who feel excluded express a lack of confidence in the school. Vickers and Minke conclude, “Children, the link between the two settings, may experience increased behavioral and academic difficulties when their parents and teachers experience conflict” (p. 133).

There is evidence that the relationship between professionals and parents of children with disabilities is not always positive. In fact, rather than being a source of support, parent-professional interactions are sometimes an additional source of stress (Gallagher, Beckman, &

Cross, 1983). Several authors have listed parental complaints about professionals (Burden & Thomas, 1986; Stonestreet, Johnston, & Acton, 1991). However, these studies have generally focused on the medical profession, and not teachers. Nevertheless, it is likely that the teacher-parent relationship is critical for the academic success of children with disabilities.

Hypotheses

The central hypothesis of this study is that the quality of the relationship between parent and teacher is related to the child's educational/developmental progress. The arrows in Figure 1 indicate the hypothesized relationships between the variables. The following are the major sources of influence on child progress (outcome) to be considered:

- (1) The parent-teacher relationship may directly influence outcome.
- (2) The parent-teacher relationship may affect the parent-child relationship which in turn affects outcome.
- (3) The parent-teacher relationship may affect the teacher-child relationship which in turn affects outcome.
- (4) The parent-teacher relationship may affect parent expectations for the child which in turn affect outcome.
- (5) The parent-teacher relationship may affect teacher expectations for the child which in turn affect outcome.
- (6) Additional indirect effects may be from the parent-child or teacher-child relationship to expectations which in turn affect outcome.
- (7) Social support may affect the parent-teacher relationship, the parent-child relationship, and parent expectations, and by any of those influences affect outcome.
- (8) Teacher preparation may affect the parent-teacher relationship, the teacher-child relationship, and teacher expectations, and by any of those influences affect outcome.

Methods

Participants

The Royal New South Wales Institute for Deaf and Blind Children in Sydney, Australia, provides numerous services to children and families. One division provides early childhood services in the form of Homestart and various Pre-School programs. Homestart is a service for

infants and children involving regular home visits from teachers, therapists, and other specialists. Four Pre-School centers offer programs for children who are deaf and/or blind along with children without disabilities.

A letter was delivered to 91 parents of children enrolled in the Sydney area Homestart or in three of the four pre-school centers (one Center is located in Newcastle, and was not utilized). A follow up letter was sent about a month later. The letter invited parents to participate in the study, and to return a form to the researcher for additional information. Ninety letters were sent, and twenty-nine families agreed to participate. One was not used as English was not spoken in the home and a translator was not available, and another was not used due to scheduling difficulties. Of the 27 children represented, five attended a Pre-School Center, and the other 22 received Homestart services.

Individual meetings were scheduled with the parents who responded, either at one of the Centers (6) or at their homes (21). Interviews with the parents lasted approximately one hour. They began with the signing of an informed consent form that described all phases of the research, including parent interview, teacher questionnaire, and child progress evaluation. A structured interview was then conducted. The interviews were conducted by the researcher and/or an advanced graduate student. Seven interviews were conducted jointly, one was conducted by the graduate student alone, and the remaining 19 by the primary researcher.

Sixteen interviews were with the mother alone. Two were with the father alone. Another seven were with both parents, one was with a legal guardian, and one was with the mother and grandmother together. Nineteen of the families described their ethnicity as Australian. The other families were Fijian, Assyrian (2), Lebanese (2), Filipino, Chinese, and Korean.

The 27 children were served by 12 different teachers. One Homestart teacher served four of the children, five served three of the children each, one served two, and one served one. One pre-school teacher served two of the children, and three other teachers served one each. Assignment of the Homestart teachers is based on child need, such as deaf, blind, motor impairment, etc.

The children ranged in age from 17 to 66 months, with an average age of 38.74 months, and a standard deviation of 13.59 months. They had been served by the Institute for two to 44 months, with an average of 19.5 months, and a standard deviation of 11.49 months. Sixteen of the children were male and 11 female.

Parents and Teachers each indicated the nature of the child's disabilities. Up to four were coded for each child. Table 1 shows frequencies based on parent and teacher report.

Instruments

Parent and Child Relationship

Questionnaire on Resources and Stress (QRS). For this study it seemed important to have a paper and pencil measure based on parent report that would be sensitive to the particular difficulties inherent in parent relationships with a child who has a disability. The QRS (Holroyd, 1974) is a 285 item instrument (of which 222 items are scored) designed to measure stress in families of children with disabilities. The questions are all answered true or false. The instrument is divided into 15 non-overlapping scales. Various short forms have been developed due to the length, lack of information on internal reliability, and the questionable validity of its 15 rationally determined scales. Friedrich, Greenberg, and Crnic (1983) developed a short form of 52 items that correlated .997 with the original, and had a coefficient alpha of .93. Factor analysis of the short form yields four factors. Factor I, labeled Parent and Family problems, consists of 20 items that assess the respondent's perception of problems. Factor II, Pessimism, consists of 11 items that consider present and future pessimism about the child's prospects of achieving self-sufficiency. Factor III, Child Characteristics, consists of 15 items to assess the perception of the specific behavioral or attitudinal difficulties presented by the child. Factor IV, Physical Incapacitation, consists of six items involving perceptions of limitations in the child's physical abilities.

The QRS and its short forms have been criticized on a number of grounds. According to Glidden (1993), one difficulty is that the scale mixes demands, stresses, and strains. A demand is a potential stressor, but does not necessarily lead to a negative outcome, or strain. Stress is the condition the demand creates. Having a child who is deaf may create demands, but the degree of stress depends on variables such as parent education, income, resources, and

experience. A strain is created when the parent experiences negative effects. Because the QRS confuses these, respondents who have a child with a disability, and answer “false” to such questions as “____ can walk without help,” are going to have higher scores than those whose children do not. Glidden points to several research projects which conclude from such findings that parents of children with disabilities are therefore under greater strain.

Clayton, Glidden, and Kiphart (1994) presented students with one of four scenarios where the child is either mentally retarded or normal, and the parents have either high or low life satisfaction. The students were asked to complete a 102-item form of the QRS assuming they were that parent. Having mental retardation alone (without regard to life satisfaction) resulted in the highest scores (indicating the greatest stress). This creates a problem, as researchers have assumed that high scores mean lower life satisfaction due to strain, and that the QRS can distinguish between those who cope well versus those who do not.

The present study tests the hypothesis that a relationship with a caregiver, the child’s homestart or pre-school teacher, has a positive impact on the relationship between parent and child. It is extremely important in testing this relationship to separate demands from strains. The quality of the relationship between parent and teacher is unlikely to cause a child who cannot walk (demand) to learn to walk. However, the parent’s concern about the child’s lack of walking (strain) might be influenced by such a relationship.

Two individuals independently reviewed the 52 items on the Friedrich, et.al. short form, and separated them into two categories: conditions that could be influenced by the support of another, and conditions that were unlikely to change due to support alone. A high rate of agreement was found, and differences were discussed and final agreement reached. All of the items on factor I (parent and family problems) and factor II (pessimism) were placed on the strain scale (QRS-S). All of the items on factor IV (physical incapacitation) were placed on the demand (QRS-D) or child severity scale. Items from factor III were split with numbers 11, 14, 21, and 34 going to the strain scale. These items are “Sometimes I avoid taking ____ out in public,” “I feel tense whenever I take ____ out in public,” “Sometimes I feel very embarrassed because of ____,” and “One of the things I appreciate about ____ is his/her confidence.” Again, these were viewed as conditions that could be influenced by the relationship with a

supportive helper. An example of an item from factor III that went to the demand scale is #1, “___ doesn’t communicate with others of his or her age.” While we were unable a priori to test the internal consistency or validity of this separation of items, we were encouraged by the call of Clayton, et. al. for researchers to “Attempt to separate the sources of influence in the data, so that results that are dependent only on a child’s level of functioning do not lead to the false conclusion of negative impact” (p. 314).

Stress. We used the 35 items on the strain scale as a measure of the parent-child relationship (QRS-S). Clearly it is only one aspect of that relationship, largely the extent to which the parent experiences negative feelings or reactions to the child’s disability. However, it is that aspect of the relationship that one would most hope to be influenced by social support, particularly from the parent-teacher relationship.

Severity of Child Disability. We used the 17 remaining items from the Friedrich, Greenberg, and Crnic (1983) short form of the QRS to constitute a measure of the severity of the child’s disability as described above (QRS-D). While many of the items were unlikely to apply to all of the children in the study, and no rationale exists to support the content validity of such a scale, it was anticipated that it would provide a distribution of scores that would be at least a rough indicator of degree of severity.

Family Support Scale (FSS). Social support was measured using the FSS (Dunst, Jenkins, & Trivette, 1984). The FSS lists 18 potential sources of support such as parents, co-workers, and professional helpers. Two additional sources may be nominated by the respondent. Respondents are asked to indicate on a five point scale how helpful each of the sources has been to them in the last six months. There is also an option to indicate that a particular source has been unavailable. The authors developed the list of sources of support based on a model that delineates four levels of ecological units in a person’s environment: nuclear and family, formal and informal kinship, formal and informal social organizations, and professionals and agencies. Dunst, Trivette, & Hamby (1994) report on the psychometric properties of the FSS. A coefficient alpha of .79 was found for the 18 items, and a split-half reliability coefficient of .77. One month test-retest reliability was .75 for the separate items and .91 for the total scale score. Factor analysis yielded a five-factor solution mirroring the four

levels of support with a division of informal kinship and formal kinship. Criterion validity was based on correlations with the Questionnaire on Resources and Stress (QRS). Total scores on the FSS were related in the predicted direction to subscales on the QRS: poor health/mood, excessive time demands, and family integrity.

Expectations for Child Progress (P-expect). To get a measure of the extent to which parents expected the child to make progress, they were asked, “Compared with how your child has done in the past, how much educational/developmental progress do you anticipate your child making during the next three months?” Answers were requested on a five point Likert scale from “much less than average” to “much more than average”.

Teacher and Child Relationship

Student-Teacher Relationship Scale (STRS). The STRS (Pianta, 1992) is a 30 item Likert-type scale designed to assess teacher perception of their relationship with a particular student. Five factors were initially identified which help to describe the instrument: conflict/anger, warmth, open communication, dependency, and troubled feelings (Pianta & Steinberg, 1992).. More recently three factors have been found: conflict, close relationship, and over-dependence (Pianta, Steinberg, & Rollins, 1995). Coefficient alphas found for the factor scores are: conflict (12 items) = .93, relationship (8 items) = .86, and dependence (4 items) = .68. A total scale alpha was .90. Nineteen of the 30 items are reverse scored. Associations have been found between the STRS and parent report of child behavior at home, teacher ratings of children’s social, behavioral and academic competence and problems, and teacher decisions to retain children (Pianta & Sternberg, 1992). Pianta (1994) used cluster analysis to identify types of teacher-student relationships in kindergarten. These were found to be related to competence and problems in first grade. Pianta, Steinberg, and Rollins (1995) found relationship in kindergarten related to both first grade and second grade relationships. They also found students who were predicted to be retained but who were not, had more positive relationships with teachers than those who were predicted to be retained and actually were.

Teacher Preparation (Prepared). Teachers were asked, “In terms of your own background and training, how well prepared do you believe you are to work with a child with

these characteristics”. They were asked to respond on a six-point Likert scale from “extremely well prepared” to “extremely unprepared”.

Expectations for Progress (T-expect). Teachers were asked, “Compared with the other children that you presently serve, how much educational/developmental progress do you anticipate in this child during the next three months?” They were given a five-point Likert scale from “much less than average” to “much more than average”.

Parent-Teacher Relationship

Parent-Teacher Relationship Scale III (PTRS). The PTRS is a revision based on a factor analysis of a previous version of the scale (Vickers & Minke, 1995). It consists of 25 items in a five-point Likert format describing the general relationship, one’s view of one’s own contribution to the relationship, and one’s view of the other’s contribution to the relationship. The final item is an overall rating of the relationship. In their factor analysis of two previous editions, Vickers and Minke found two factors which they called joining and communication. Joining reflects “a sense of affiliation and support,...dependability and availability when there are problems to be solved, and shared expectations and beliefs about each other and the child” (p. 144). The communication factor represents the person’s willingness to share concerns, ask questions, and express pleasure. Identical items are administered to both teachers and parents, with only the word “teacher” or “parent” substituted. Nine of the items are reverse scored. In addition to the five point response scale, respondents may indicate “not applicable”. When this occurred, total scores were pro-rated.

Relationship With Institute. Parents were asked by means of four Likert-type scales to rate the Institute in terms of their satisfaction with services, their relationship with it, how supported they have felt by the Institute, and how involved they have been with their child’s program.

Teacher Preparation. Parents were asked to assess their child’s teacher’s training.. They were asked to indicate on a six point Likert scale from “extremely well prepared” to “extremely unprepared”, in terms of background and training, how well prepared the teacher was to serve their child.

Family Needs Survey (FNS). In order to assess the extent to which family needs were being addressed by the Institute and/or elsewhere, a version of the Family Needs Survey, initially developed by Bailey and Simeonsson (1988) and revised by Bailey, Blasco, and Simeonsson (1992), was administered. Bailey and Simeonsson (1988), after an extensive review of the literature and interviews with individuals who work with families, developed the FNS to assess the functional needs of particular parents. This initial 35-item survey categorized needs by needs for information, support, help explaining to others, community services, financial assistance, and family functioning. For each item, respondents indicate the extent to which they need help with particular concerns. Bailey, Blasco, and Simeonsson (1992) factor analyzed the items, and derived a new set of categories: family and social support, informational needs, financial needs, explaining to others, child care, and professional support. Three items, related to community services, did not load significantly on any factor. While they found some differences in factor structure for mothers and fathers, their sample of fathers was not large.

For the present study, we wanted to elicit the extent to which the Institute assisted families with their needs. For that reason several of the items from the FNS were not used, specifically items dealing with job counseling, and needing more time with a minister, counselor, or the child's teacher. In addition, a question dealing with needing more child care during church services was eliminated. The remaining items for child care, professional support, and community services were combined into a single category of "community services". One item in that category regarding day care or preschool was changed to "locate appropriate education and/or school services". In order to get more general information related to this category, an item related to finding a dentist was changed to be more general: "seek support outside the school". That gave us a set of 30 items, organized around family and social support, information, financial needs, explaining to others, and a category of child care/community services. For each need statement, parents were asked to indicate on a four point scale from none to a great deal, how much help they received from the Institute for that need. They were then asked to indicate on a six point Likert scale how satisfied they were with that support. Finally, they were asked to indicate whether they would like additional support on a three point scale (yes, maybe no).

Child Educational/Developmental Outcomes

As the early childhood services at the Institute eschew the use of standardized tests, there was no means to objectively measure child progress. Services are geared toward parent goals. Therefore the measurement of child outcomes for this project was directed at the extent to which goals were perceived to have been met.

First, parents and teachers were each asked to list what they most wanted the teacher to work on with their child over the next three month period. These were categorized as shown in Table 2. Then, approximately three months later, parents and teachers were asked to list what gains they felt the child had made. These were placed in the same categories.

Second, parents and teachers were asked to score each of the gains in terms of how significant it was. They applied a four point scale with “1” indicating extremely important progress, “2” very important progress, “3” important progress, and “4” unimportant progress. In order to convert this into a usable measure of outcome, the number of 1’s assigned was totaled.

Third, parents and teachers were asked to indicate on two five point Likert scales, the extent to which the child met or exceeded expectations for progress, and their degree of satisfaction with the progress made.

Parent Interview Questionnaire. The interview was conducted by reading a questionnaire to the parents. The questionnaire gathered basic demographic information, including information for calculating socioeconomic-economic status, information about the child’s disability, about services received from the Institute, and several Likert measures of satisfaction with services, relationship with the Institute, amount of support felt from the Institute, degree of stress experienced in raising their child, and involvement with their child’s program. The questionnaire also contained the PTRS, FSS, QRS, and FNS, and the expectations, teacher preparation, and three month goal questions as described above.

Teacher Questionnaire. Teachers completed the questionnaire independently and returned them to the researcher. There were three parts to the questionnaire. The first was the Child Disability Scale (CDS) which asked the teacher to describe the nature of the child’s disability, to rate the disability from mild to profound, to indicate on a Likert scale how the

child's disability compared to other children the teacher worked with, and finally, the questions regarding expectations and preparation described above. The other two parts were the STRS and the teacher version of the PTRS.

Procedures

At the interview, parents read and signed an informed consent form, which gave permission for the interview, for the teacher to complete a questionnaire, and for the child's records to be accessed. After the interview, the teacher was sent a copy of the signed consent form and the Teacher Questionnaire. Approximately three months later, teachers and parents were sent copies of the Outcome Evaluation.

Data Analysis

Because there are only 27 children in this study, it is difficult to test the major hypotheses. With so few subjects, the results are greatly influenced by chance. One subject whose data is highly inconsistent with the other 26 could cause a distortion of the findings (Cohen, 1990). While larger sample sizes are certainly desirable, they are not always possible. The question then becomes, are studies with small samples worth conducting and reporting? According to Schmidt (1996), "a single primary study can rarely resolve an issue or answer a question. Any individual study must be considered a data point to be contributed to a future meta-analysis" (p. 127). Schmidt expresses the concern that if small studies are overlooked or disregarded, we may not be able to advance science, because such studies are necessary for future meta-analyses that can "uncover the latent meaning of existing research literatures".

Small studies do call into question the significance of the results, due to a lack of power. However, statistical significance testing is designed to prevent Type I errors, or concluding that there is a relationship between variables when none exists. Keeping a tight reign on Type I error increases the probability of committing Type II error, that is, concluding there is no relationship when in fact there is one. Type I error is a particular problem for inductive or exploratory studies, where one is looking to see what relationships might exist. The present study tests a model of relationships that we believe to exist, and so is deductive. In this case we are not really interested in the null hypothesis, but rather in demonstrating the possibility of an actual relationship. It therefore seems reasonable to relax our controls on Type I errors, so that

we do not dismiss evidence for this relationship. Several authors have pointed out the arbitrary nature of the .05 alpha level (Cohen, 1990; Schmidt, 1996; Rosnow & Rosenthal, 1996). In this study we have decided to use an alpha level of .1. This allows us to claim that a few additional correlations are “significant”. However, at the same time, we will heed the call of Schmidt (1996) and Cohen (1994) and for the testing of our major hypotheses, we will include confidence intervals around our effect sizes (the correlation coefficients). These confidence intervals show the probable range of the “true” correlation, keeping in mind that the higher the coefficient, the more meaningful the relationship between the variables.

Results

Parent and Child Relationship

Means and standard deviations for parent-child variables are shown in Table 3.

Questionnaire on Resources and Stress

Although this instrument was scored for two different scales, it was administered as one instrument. Administering it in the form of an interview gave the researchers an opportunity to note several problems with the instrument. First, the true-false response format was frustrating for a number of parents. Second, some questions were difficult to interpret. For example, “___ can ride a bus.” Some parents responded, “Can if I help and go along, so ‘true’,” while others assumed the questions meant independently, and answered “false”. Other questions were ambiguous in terms of how to answer. For example, item 7 is “I have accepted the fact that ___ might have to live out his/her life in some special setting.” Some parents answered “false” to that because they do not believe their hard of hearing child will need to be institutionalized. However, a “false” is scored in the negative direction, as indicating the parent has not accepted what might be. For that reason this particular item was not scored in the present study. Finally, there is a subtle difficulty with how parents have learned to deal with having a child with disabilities. For example, one item reads “___ doesn’t do as much as he/she should be able to do.” The problem is how to interpret “should.” Some parents used normal children as a reference for “should,” while others used the child him/herself. The latter case always produced a response of “false” no matter how disabled the child might be. This widely used instrument clearly needs to be reassessed.

Stress

Scores on the Stress scale could range from zero to 34, with higher scores indicating greater stress. As shown in Table 3, in this study the scores ranged from zero to 24, with a mean of 9.96 and standard deviation of 6.95. In order to get some indication of concurrent validity for this scale, scores were correlated with a question parents were asked about stress: "Some parents find raising a child with a disability to be stressful. How stressful have you found the experience?" Parents were given a five point Likert scale to respond. The correlation between these two measures was $-.45$ (on the second measure, a low score indicated greater stress), which was significant at the $.05$ level. Thus there is some general support for the scale to be a measure of parent stress.

Severity

Scores on the severity scale could range from zero to 17, with higher scores indicating greater severity. As shown in Table 3 they did in fact range from one to 17, with a mean of 7.33 and standard deviation of 5.14. As a measure of concurrent validity on this scale, parents were asked, "Consider the other children who are served by the Institute. How does the severity of your child's disability compare with the average severity among the other children?" Parents responded on a five point Likert scale. The correlation between these scales was $.49$, which is significant at the $.05$ level, indicating some general support for the scale to be a measure of severity.

Expectations (P-expect)

Parents were asked, compared with how their child had done in the past, how much educational/developmental progress they anticipated him/her making during the next three months. The five point Likert scale ranged from "much less than average" to "much more than average". The mean score was 3.44, with a standard deviation of 1.25. As can be seen from Table 4, parents tended to anticipate average or above average progress.

Social Support

Scores on the FSS scale could theoretically range from zero for those families with no social support, up to at least 90 for those who had a wide variety of extremely helpful support. For these families, the scores ranged from 19 to 66, with a mean of 40.96 and standard

deviation of 12.68 (Table 3). This is slightly lower than what was found by Dunst, Trivette, and Hamby (1994) with 244 U.S.A. parents of children with developmental disabilities or who were at risk, who had a mean of 48.42 and standard deviation of 10.73.

One of the possible sources of support listed on the scale is “Early childhood Intervention Program”, which parents clearly took as including services by the Institute. Twenty of the parents rated support from this source as “extremely helpful” (5), six rated it “very helpful” (4), and one rated it “generally helpful” (3).

Socioeconomic Status (SES)

SES was calculated following procedures suggested by Manaster and Havighurst (1972). Parents’ occupation was scored using a six-point International Scale of Occupations (1=highest status). Parents’ education was scored using a six-point British system (1=highest education). The parent with the highest occupation score was used for calculating family SES. The formula is occupational level times 3 plus educational level times 2. Thus scores could range from 5 to 30, with a score of 5 representing the highest level of SES. Scores did in fact range from 5 to 30, with a mean of 15.26 and standard deviation of 6.94 (Table 3).

Intercorrelation of Family-Child Variables

The correlations among these variables are shown in Table 5.

Stress. Stress is related to severity, such that more severe children are associated with increased stress. Stress is also related to expectations for progress, so that greater stress is related to a lowered expectation for progress. Stress is also related to SES, so that those with higher SES experience less stress.

Severity. Severity is also associated with expectations of progress, so that increased severity is related to reduced expectations. Severity however is not associated with SES, a finding that supports the independence of the Stress and Severity measures, even though they are highly correlated.

Expectations. Expectations for progress is interesting in that it is related to stress, severity, and social support, but not SES. Thus, those individuals with higher SES do not have different expectations for progress.

Social Support. FSS is only related to expectations for progress. Greater social support is associated with more optimistic expectations for progress.

Teacher and Child Relationship

Means and standard deviations for teacher-child variables are shown in Table 6.

Student Teacher Relationship

Scores on the STRS can range from 30 to 150. Obtained scores ranged from 85 to 137, although the 85 was an outlier, with the next highest score being 102. The mean score was 120.82 and the standard deviation was 11.61.

Severity

The teachers were asked two questions regarding the severity of the child's disability. First, they were asked whether the child's condition was mild, moderate, severe, or profound. None of the children were listed as mild, but the distribution for the other three was fairly even. Second, they were asked on a five point Likert scale to indicate how the child's disability compared in severity to the other children the person worked with. A problem with this question was that some teachers worked with the more severely disabled, and so saying a child was very typical might nevertheless reference a child who was quite severe. Nevertheless, the two scales were significantly correlated, with $r=.71$ ($p<.01$).

Expectations (T-expect)

Teachers were asked, compared with the other children they work with, how much educational/developmental progress did they anticipate the child making during the next three months. They answered using the same five-point Likert scale used by parents (from "much less than average" to "much more than average"). The mean was 3.23 and the standard deviation was 1.07. The actual distribution of scores by teachers and parents is shown in Table 4. A correlation with the parents' expectations was a non-significant .30 ($p>.1$).

Preparation (Prepared)

Teachers were asked to indicate on a six-point Likert scale how prepared they were in terms of background and training to work with the particular child. Responses were varied, although 73% indicated they were well or extremely well prepared. The second question regarding the comparison of severity, noted above, was significantly correlated with how

prepared the teachers felt to work with the child ($r=.47, p<.05$). Thus, teachers who felt the child was more severe in disability than the average child at the Institute felt less well prepared to work with the child.

Intercorrelation of Teacher-Child Variables

The intercorrelations among these variables are shown in Table 7.

STRS. The student-teacher relationship was significantly correlated with expectations for progress and with how well prepared the teacher felt they were to work with the child. A closer relationship was associated with higher expectations and a greater sense of competence.

Severity. As reported above, the two measures of severity were closely associated. The question regarding the level of severity was not associated with any of the other teacher-child variables. However, the second, comparative question, was associated with expectations for progress and being prepared, such that the greater the severity, the lower the expectations and the lower the sense of competence.

Expectations. Those teachers with higher expectations had a more positive relationship with the child, saw the child as less severely disabled, and felt better prepared to work with the child.

Prepared. Preparation was significantly correlated with STRS, severity, and expectations. Those teachers who felt most prepared had a more positive evaluation of their relationship with the child, saw the child as less severe, and had a higher expectation for progress.

Parent and Teacher Relationship

Parent and Teacher Relationship: Parents

Results on the PTRS show a very positive parent and teacher relationship. Scores can range from 25 to 125 on the scale, however in this sample they ranged from 107 to 125, with a mean of 119.70 and standard deviation of 4.40. The score of 107 was an outlier, with 112 being the next highest score. Table 8 shows the distribution of scores.

There are several possible explanations for the limited variance found on this instrument. First, it may be because the teachers at the Institute are extremely skilled in developing relationships with parents. Second, it may be because those parents who agreed to participate

did so because of the positive relationship they had with the teacher. Third, as these were young children, parents would not have many parent teacher relationships to compare this one with, and as it was productive for their child, they rated it as very positive.

Teacher Parent Relationship: Teacher

The TPRS is the same as the PTRS with the names reversed, and so may range in score from 25 to 125. Scores obtained from the teachers ranged from 80 to 125, with a mean of 113.85 and a standard deviation of 11.24. This is a lower mean, and a much larger standard deviation than was found with the parents. The teachers' evaluation of their relationship with parents was much more varied. However, it was still quite positive, and the modal score was 125, with a count of six.

It is interesting to speculate about the larger variance associated with the teachers' scoring of the relationship. The most likely explanation is that the teachers could compare their relationship with a given parent with their relationships with many other parents. This is in contrast to the parents who would have had a much smaller group to compare.

A correlation was calculated between the parents' and teachers' ratings of the relationship between them. The result was a non-significant .24. It is interesting to speculate to what extent this low correlation may be due to the restriction in the range of scores obtained from the parent sample. Guilford and Fruchter (1973) provide a method for correcting for restriction in range if the unrestricted standard deviation is known. If we use the standard deviation obtained from the teachers to represent this unrestricted variation, the formula produces a correlation of .53, which is significant at the .01 level. However, it is still lower than one might expect if both parent and teacher are able to objectively evaluate their relationship.

Relationship with Institute

Satisfaction. Parents were quite satisfied with the services their child was receiving from the Institute. As can be seen from Table 9, when asked how satisfied they were on a seven point Likert scale, only the top three categories were used, satisfied, very satisfied, and extremely satisfied, with 63% of the parents choosing the extremely satisfied response.

Relationship. In a similar vein (Table 9), when asked to describe their relationship with the Institute, again only the top three categories were chosen, with 48% of the parents indicating an extremely positive relationship.

Support. Finally, parents were asked how supported they felt by the Institute. In this case (Table 9) one parent was neutral, but the others felt supported, with 41% feeling extremely supported. In order to see whether this was related to the Family Support Scale (FSS), the item on that scale related to Early Intervention Program was correlated with the question on support. Although not significant, the correlation was in the expected direction ($r = -.19, p > .1$).

Involvement. In an attempt to measure school involvement on the part of parents, they were asked on a five-point scale how involved they were with the Institute. It was clear from parent responses that they did not always know how to reply to the question. Some interpreted it as whether they ever went to the Institute. For those whose children were served by Homestart that would not necessarily be a frequent occurrence, although the early childhood programs did offer some meetings. Other parents interpreted the question as to whether they followed through on their child's program at home. Therefore, it is difficult to interpret the results for this question, although all parents indicated some level of involvement. Scores ranged from extremely involved (40.7%) to slightly involved (3.7%).

Teacher Preparation (Training)

Parents were asked on a six-point scale how well prepared they thought their child's teacher was to work with a child such as theirs. Almost three quarters thought the teacher was extremely well prepared (74.1%), with the other quarter saying well prepared.

Family Needs

Rank Order. Parents were asked to rank order the six need areas from the revised FNS (including child care as a separate category, but joining professional and community services). This means they were asked to indicate the most important of the needs as "1" and the least important as "6", with the others assigned the numbers in between. The mean ranking for each area is shown in Table 10. Quite clearly, information and family/social support are considered very important by this group of parents.

Overall Support. Mean scores were calculated for help received, satisfaction with the help, and desire for additional help across all areas of family needs. Total scores for received could range from zero to 90 (lower scores indicate less help received). The scores did range from 9 to 62, with an average of 33.55 and standard deviation of 13.79. Dividing this mean of 33.55 by 30 questions, gives an average score of 1.12, suggesting that overall, the Institute provided “a little” support for the 30 needs.

Scores for satisfaction could range from 30 to 180 (lower scores indicate higher satisfaction). Total scores did range from 30 to 139, with an average 51.89 and standard deviation of 25.87. Dividing this mean by 30 gives an average score of 1.73, representing a “fairly satisfied” (2) response.

Scores for wanting more could range from 30 to 90 (lower scores indicate a greater desire for more help). They did range from 34 to 90, with a mean of 63.74 and a standard deviation of 14.83. Dividing again by 30 gives an average of 2.14, which represents an answer of “maybe” wanting more assistance.

Need Areas. Results for each of the five areas of need are reported in Table 11. Looking at the overall means for each area, parents reported receiving the most assistance with needs for information, followed by needs for community services, explaining to others, support, and financial needs. Parents reported the highest satisfaction with assistance received for explaining, followed by community services, support, financial needs, and then information. One reason for this finding is that some parents did not expect the Institute to assist with certain needs, and so were satisfied that they had not received very much help. This is reflected in the means for wanting more assistance, which all average to “maybe”. The area where they expressed the greatest desire for more help was information, followed by community services, explaining and finances (tied), and support.

Needs for Information. This was the area where the most help was received, with the lowest satisfaction, and the greatest desire for more. It was also ranked by parents as the overall area of greatest need. Parent comments suggested they valued and appreciated what the Institute offered, but they never have enough information.

Needs for Support. Parents did not report a lot of assistance in this area, but they were generally satisfied with that, and did not express a great desire for additional help. Parent comments suggested they took care of this area themselves.

Needs for Financial Assistance. With the exception of helping parents get special equipment, the Institute was not reported to have assisted in this area to any extent. Most parents were generally satisfied with that and did not desire additional help. Australia has programs so that parents should not have serious financial problems associated with a child with disabilities.

Needs for Explaining to Others. Parents reported some assistance with gathering reading material about families who have a child with a similar condition. They were somewhat less satisfied with this than with other needs in the area, and desired more additional help. Overall, however, this area was one where not much was received, satisfaction was medium, and additional assistance was not desired.

Needs for Community Services. The greatest amount of help received in this area was locating appropriate education and/or school services for their child. Parents were also fairly satisfied with the help received. Overall, this area was second in mean score in each of the three measures: second to Information in amount of help received, second to Explaining to others in degree of satisfaction with the assistance, and second to Information in wanting additional/more help.

Correlations Among Parent-Teacher Variables

The variables reported in this section were intended to indicate the extent to which parents felt they had a positive relationship with the Institute, and how parents and teachers evaluated their relationship with each other. Table 12 provides correlations of the relationship variables with PTRS and TPRS. All the variables with the exception of satisfaction with services are significantly related to PTRS. The TPRS is related to relationship with the institute, parent involvement, and teacher preparation. This suggests that the relationship between teacher and parent is not independent of the parent's overall relationship with the Institute.

Table 12 also shows the correlations between PTRS and TPRS and overall scores on family needs: how much help received, how satisfied with the help, and wish for more help.

The PTRS was not significantly related to any of the three measures of need. The TPRS, however, was significantly related to how satisfied the parents were with the help they received (the higher the satisfaction the better the relationship), and with some rounding, related with a desire for more help. However, in the case of more help, the better the relationship, the less desire there was for more assistance.

The Parent-Teacher Relationship and Major Variables

Table 13 presents the correlations between PTRS and TPRS with the major parent-child and teacher-child measures from this study. Only the measure of Stress is significantly related to the PTRS. However, the TPRS is significantly related to Stress, parent's expectation for progress (P-expect), the STRS, and the teacher's assessment of their own preparation. Neither measure was related to FSS or teacher expectation for progress (T-expect). It is interesting that the TPRS was related to two parent measures, and the effect size with Stress was greater than found for the PTRS. This may be attributable to the greater variability in scores obtained with the TPRS. It certainly suggests that the TPRS is a good measure of the relationship even from the parent's perspective.

Child Outcomes

The outcome questionnaire was distributed to teachers and parents approximately three months after the initial interview. Eighteen parents returned completed questionnaires. One parent called to say she was too busy to participate, and one parent wrote a note that her child was no longer being served by the Institute. The other seven parents made no response. Teacher questionnaires were completed for 25 of the children. One was not completed for the child who had left the service. The other child had changed programs within the Institute. Nevertheless, outcome data was obtained on 26 of the original 27 children, and for 17 of them data was collected from both parents and teachers.

Congruence in Parent and Teacher Goals

Parents and teachers were asked to list their educational/developmental goals for the child. These were categorized as shown in Table 2, above. The match between parent and teacher categories was examined and scored as "1" for a perfect agreement between parent and teacher regarding the child goal categories, "2" for a match where either the parent's or

teacher's goals were completely included in the other person's, "3" for at least one overlapping category, and "4" for no match. Frequencies for this matching (as well as those below) are shown in Table 14.

It could be hypothesized that the closer the relationship between parent and teacher, the closer the match in goals will be, as the two could be expected to be in closer communication. Therefore correlations were calculated between the goal match and PTRS and TPRS. The correlation with PTRS was significant ($r = -.37, p = .057$). However, the correlation with TPRS was not ($r = .08, p = .708$). Thus the hypothesis is supported by the PTRS. The lack of association with the TPRS could suggest that the match is less important to teachers than to parents as an indicator of their relationship.

Congruence in Goals and Gains

The gains identified by parents and teachers were coded by the same categories used for goals. The totals are in Table 14. Three matches were then developed. One was a match between the gains identified by parents and those by teachers. The same four point scale used with goals was applied. Due to a loss of subjects, there were only 17 matches that could be made. As can be seen from the second column in Table 14, in all cases there was at least some overlap in the categories between parents and teachers, suggesting that they all saw some gains in common.

The second match was between parent goals and parent gains. A three point scale was used here, with "1" indicating that gains were identified in all goal categories, "2" indicating that there was overlap between goals and gains, and "3" indicating a lack of congruence between goal categories and gain categories. As shown in the third column in Table 14, although there were only 18 subjects in this comparison, 61.1% of the time, gains were identified in all goal categories.

The third match was the same as the second, except for using teacher goals and gains. As seen in the fourth column of Table 14, in only two cases was there no overlap, although the percent receiving "1" was lower than with parents. However, the number of subjects was higher ($n = 25$), and the parents who did not return outcome forms may have had a lower rate of

overlap. In other words, the return rate from parents may have been biased by seeing gains in goal areas.

Significance of Outcomes

The child's gains were each rated by the parent or teacher in terms of how significant or important each was. There was no easy way to tally these ratings, as any system would be influenced by the tendency of the rater to list many or few gains, and many or few less important gains. However, tallying the number of "extremely important" gains might have some importance, although it would still be subject to the evaluator's ability to think of gains to list.

For both parents and teachers, the number of "extremely important" gains ranged from zero to 5. The actual distribution appears in Table 15. The correlation between parent and teacher ratings (based on 17 cases) was a non-significant $-.02$.

Expectations

Parents and teachers were asked to indicate how progress met their expectations on a five-point Likert scale ranging from "greatly exceeded my expectations for progress" to "much less than what I expected for progress." Results appear in Table 15. For both groups, the range was from 1 to 4. Parents were somewhat more pleased, with a mean rating of 2.35 (s.d.=.79), while teachers had a mean rating of 2.57 (s.d.=.66). A correlation between parent and teacher expectations was a non-significant $.04$, based on 14 cases.

Satisfaction

Parents and teachers were asked to indicate their satisfaction with the child's progress on a five-point Likert scale ranging from "very satisfied" to "very dissatisfied". Parent satisfaction ranged from 1 to 3, while teacher satisfaction ranged from 1 to 4. Results are in Table 15. It is clear that there was a high degree of satisfaction within both groups. The correlation between parent and teacher ratings of satisfaction was $.37$ ($p=.169$, $N=15$). Clearly, the teachers and parents are more congruent on satisfaction than on expectations or significance.

Correlations Among Outcome Measures

Matches and Other Measures. It would make sense that the agreement between parent goals and gains might be related to parent measures of importance of gains, meeting of

expectations, and satisfaction. In other words, if gains are made in the areas parents wanted worked on, one might expect more ratings of “1” (extremely important progress), a greater sense of having surpassed expectations, and a higher degree of satisfaction. However, correlations between the closeness of the match and those outcome variables were not significant at the .1 level. It would further have made sense for there to be a relationship between these same variables for teachers. However, once again, the correlations were not significant.

Parent Measures. The correspondence between measures of importance, expectation, and satisfaction were evaluated with correlation coefficients. The relationship between parent expectation and parent satisfaction was significant ($r=.72$, $p=.001$) suggesting that higher rates of satisfaction were related with exceeding expectations.. However, importance of the gains was not related to the other two.

Teacher Measures. The correspondence between importance, expectation, and satisfaction for teachers was also evaluated with correlations. Again, expectation and satisfaction was significantly related ($r=.44$, $p=.041$), but importance was not related to the other two.

Correlations Between Outcome Measures and the Parent-Teacher Relationship

The primary hypothesis of this study is that the relationship between parents and teachers is related to child outcomes. Table 16 shows the correlations between outcome measures on the PTRS and TPRS. The only outcome measure to correlated significantly is teacher satisfaction (TSAT) with the TPRS. As teacher satisfaction with gains increased, so did the rating of the relationship with parents.

T-tests for Measures of Goals and Gains and the Parent-Teacher Relationship

Because the two matches between goals and gains (parent goals and gains, and teacher goals and gains) were three point scales, groups were constructed with those who scored “1” and those who did not score “1” (but scored “2” or “3”). The two groups were of fairly equal size (11 and 7 for parents, 12 and 13 for teachers). T-tests were then conducted for differences between means on the PTRS and TPRS. None of the t-tests was significant, although the difference in means on TPRS for the goal-gain match for teachers was six points

(116 vs. 110), and came close to the .1 level of significance ($t=1.35$, $df=23$, $p=.189$). Part of the difficulty in achieving significance was the reduced number of subjects with the outcome measures.

Hypothesis Testing

Path Analysis

A major aim of this study has been to explore the effect of the teacher and parent relationship on outcomes for the child with disabilities. When one talks about “effect”, the word suggests an element of causation. What is being said is that a good relationship between parents and teachers causes a better educational outcome for the child, and vice versa. However, everyone with a background in statistics “knows” that correlation does not mean causation. How then, in a correlational study, does one establish “effects”? One method is called path analysis. Path analysis utilizes correlational data to provide evidence in support of a theoretical model. Correlation, when used to test the assumptions of a causal model, can provide information concerning the viability of the causal relations within the model which may either tend to support or contradict them. There are three logical requirements for inferring this type of causality (Keith, 1988). The first is prior time precedence; that is, the effect being predicted should logically come after the presumed cause. Second, there should be a relationship (correlation) between the variables. Third, the relationship between the variables should be nonspurious; that is, the model takes into account all meaningful variables.

For the present study, child outcomes clearly come after the relationship. We then maintain that the primary influence of the parent and teacher relationship is on the parent and child and the teacher and student relationships, and not the other way. One could of course argue for the other direction (for example, the teacher and child relationship influences the parent and teacher relationship), but that is not the position being taken here. We are only testing paths where the correlation is significant at the .1 level, and so the second requirement is satisfied. As Keith (1988) points out, the third requirement is the most difficult to satisfy. We already know that our model is incomplete because it does not include parent SES, and we know SES correlates with parent stress (our measure of the parent and child relationship). But the existence of such additional variables does not mean the relationships we are testing here are

spurious (primarily the result of some third variable). However, the reader should examine the evidence presented here with care. With so few subjects, the present study must be considered only a tentative analysis of the proposed model.

With more subjects, it would be possible to test the entire model at once. However, with so few subjects, particularly after the reduction in data due to incomplete outcome measures, it is only possible to test segments of the model separately. We have limited each analysis to three variables, the one being predicted (outcome) and two variables predicting outcome. This allows us to examine direct effects of one variable, say “variable A”, on outcome, and indirect effects of “variable A” on outcome due to the relationship between “variable A” and another variable “B”, when “B” also has a direct effect on outcome. These will be highlighted in the various Figures to follow.

Selected Measures

Parent-Teacher Relationship. For the analysis of the major hypotheses, the TPRS was chosen as the measure of the parent-teacher relationship. This was for three reasons. First, the results on the TPRS showed more variability than the PTRS, and correlation depends on variability. Second, the TPRS correlated with more variables in the Model than did the PTRS. Third, only one correlation with an outcome measure was obtained, and that was with the TPRS.

Outcome Measure. In order to test the Model, there needs to be a significant relationship between the parent-teacher relationship and an outcome measure. The only one obtained was for teacher satisfaction (TSAT). One could make the case that the significant relationship between TPRS and TSAT is due to chance factors, as one would expect at least one significant finding among so many correlations. Several points argue against this. First, the Model predicts a relationship. Second, the relationship between TPRS and TSAT is fairly strong. By combining scores “2”, “3”, and “4”, two groups were created on the TSAT, with 10 subjects in one (high satisfaction) and 12 in the other (lower satisfaction). A t-test with TPRS was significant ($t=2.68$, $df=20$, $p=.014$), with higher scores on the TPRS associated with the high satisfaction group. Third, as will be seen below, TSAT correlates significantly with many of the major variables in this study. Finally, a scatterplot of TPRS against TSAT shows a

normal looking distribution (see Figure 2). Table 17 shows the data points. Removing the data points for TSAT = 3 and TSAT = 4 still produces a significant correlation of $-.46$. Given the restricted range on TSAT, one might anticipate that with more variability in scores, an even greater effect size (correlation coefficient) would be obtained.

Correlations Among Variables in the Model

Correlations between the variables identified in the relationship Model (Figure 1) are shown in Table 18, and in Figure 3). All significant correlations are in the expected direction. Numerous negative correlations exist because of the scoring of particular scales. Of most importance is the fact that TSAT is scored so that low numbers represent high teacher satisfaction. Confidence intervals for correlations significant at the .1 level and which are a part of the model are included. (Some correlations that were significant but not part of the model are interesting, for example between family stress and the student-teacher relationship.) The confidence intervals were calculated using Fisher's Z transformation (Guilford & Fruchter, 1973), and are established for the .90 level of confidence. That is, the chances are 90 out of 100 that the true correlation lies within this range. Some of the confidence intervals are pretty broad, with correlations as low as $.03$. However, none fall over to the other side of zero.

Hypothesis 1

The first hypothesis was that there is a direct path relationship from the teacher and parent relationship to outcome. We have already seen that the correlation between TPRS and TSAT is $-.51$. Because there are only two variables under consideration here, there is only a direct effect. Path coefficients (like correlation coefficients) tell the change in standard deviation units in the presumed effect for each change in the presumed cause. Thus, for a one standard deviation change in teacher satisfaction, we would expect to see an approximately one-half ($.51$) change in the standard deviation of teacher and parent relationship, in the opposite direction (opposite because high scores on TSAT are low numbers, while high scores on TPRS are high numbers). This supports the importance of the relationship for child outcomes.

Hypothesis 2

The second hypothesis was that the teacher and parent relationship will affect the parent and child relationship which in turn affects outcome. In other words, this hypothesis suggests

that a part of the effect of TPRS on TSAT is due to its influence on Stress (our measure of the parent-child relationship). The path analysis shows the direct effect of Stress on TSAT, and indirect effect of TPRS through its relationship with Stress, and the direct effect of TPRS having removed the indirect effect through Stress. The results of the path analysis can be seen in Figure 4. According to Keith (1988), any path greater than .05 may be considered “meaningful”. This analysis suggests that Stress has a direct effect on TSAT (.26), and that TPRS has an indirect effect through Stress. The indirect effect through Stress can be calculated by multiplying the two effects (.26 x -.51), which gives -.13. The direct effect of TPRS has been reduced to -.38 (from having separated out the indirect effect through Stress). The direct and indirect effects may be summed to give the total effect of TPRS on TSAT, which comes to the original -.51, reported with Hypothesis 1. This analysis supports the causal effect on TSAT of the TPRS both directly and through its relation with Stress.

Hypothesis 3

This hypothesis stated that the TPRS will also have an indirect effect on TSAT through its relationship with the STRS. The results are somewhat similar to those for Hypothesis 2 (see Figure 5). There is a direct effect from STRS (-.36), and an indirect effect from TPRS (-.27). The TPRS influences TSAT both directly and through its relationship with the STRS.

Hypothesis 4

This hypothesis stated that the TPRS will have an indirect effect on TSAT through its relationship with parent expectations for progress (P-expect) (see Figure 6). Once again there are direct effects from P-expect (-.33) and the TPRS (-.39), with an indirect effect from TPRS through P-expect of -.12, a somewhat smaller indirect effect, but still greater than the .05 minimum. Thus TPRS does influence TSAT through its relationship with parent expectations.

Hypothesis 5

The fifth hypothesis looked at the effects through teacher expectations (T-expect). As seen in Figure 7, there is a direct effect from T-expect to TSAT (-.53). However, the correlation between T-expect and TPRS was not significant, and so we make the assumption that there is no indirect effect from TPRS to TSAT through T-expectations. This hypothesis is not supported.

Hypothesis 6

The sixth hypothesis states that Stress and the STRS may have indirect effects on TSAT through their correlation with expectations. If more subjects had been available, these could have been tested along with additional indirect effects from TPRS, but the addition of another variable to the equation is too risky. The results are shown in Figures 8 and 9. The results are strikingly similar. The indirect effect of Stress on TSAT through P-expect is .13, and the indirect effect of STRS on TSAT through T-expect is -.13.

Hypothesis 7

The seventh hypothesis looks at the effects, direct and indirect, on TSAT for social support (FSS). The correlation between FSS and TSAT was not significant at the .1 level. Thus we must make the assumption that FSS does not have a direct effect on TSAT. However, FSS is significantly correlated with parent expectations, and based on our model this represents a direct effect on P-expect. We can then test for an indirect effect on TSAT by way of P-expect. The result is in Figure 10. The indirect effect for FSS calculates to -.16. Thus to the extent to which social support influences parent expectations, it has an indirect effect on child outcome, as measured by teacher satisfaction.

Hypothesis 8

The final hypothesis deals with the effects of teacher preparation on outcome. First, we examine the direct and indirect effects with TPRS. Here we assume that there is an effect on TPRS from Prepared, and thus an indirect effect on TSAT through TPRS. The result is shown in Figure 11. There are direct effects from TPRS (-.34) and Prepared (.27) on TSAT, and an indirect effect from Prepared of .16.

Second, we examine the direct and indirect effects with STRS. Again, we assume preparation affects the student-teacher relationship. The results are in Figure 12. Again, there are direct effects from STRS (-.43) and Prepared (.35), and an indirect effect through STRS of .16.

Third, we examine the direct and indirect effects with T-expect. Once again the model assumes Prepared affects T-expect. The results are shown in Figure 13. There are direct

effects from T-expect (-.38) and Prepared (.28), and an indirect effect through T-expect of .22, which is somewhat larger than indirect effects found in the other analyses.

Discussion

Major Findings

The central hypothesis of this study was that the relationship between parent and teacher is related to the child's educational/developmental progress. This hypothesis received substantial support. Of the eight hypotheses, all but one were supported. In addition to its direct effect on outcome, the teacher-parent relationship had indirect effects through the parent-child relationship, the teacher-child relationship, and parent expectations for child progress. In addition, teacher preparation had an indirect effect on outcome through the teacher-parent relationship. Additional indirect effects for the teacher-parent relationship might have been found through the parent-child relationship and parent expectations, and through the teacher-child relationship and teacher expectations, if enough subjects had been obtained to test those paths. As it is, we found that the parent-child relationship had indirect effects through parent expectations, and the teacher-child relationship also had indirect effects through teacher expectations.

We did not find that social support had a direct effect on either the teacher-parent relationship or outcome. However, it did have an indirect effect on outcome through parent expectations. In addition to a direct effect on outcome, teacher preparation had indirect effects through the teacher-parent relationship, the teacher-child relationship, and teacher expectations.

Contrary to expectations from the model, the teacher-parent relationship did not have an indirect effect on outcome through teacher expectations. This was because the correlation between the TPRS and T-expect was not significant at the .1 level.

What, then, do these findings imply? We will examine each of the three primary relationships.

Parent and Child Relationship

We assessed this relationship using a measure of parent stress. The assumption was that less stress implied a better parent-child relationship. This assumption should be investigated with further research. We found, as expected, that stress in this relationship was related to child

progress, as measured by teacher satisfaction with progress. As stress in the relationship increased, satisfaction with progress decreased. Thus it is worth finding ways to reduce this stress level.

We had anticipated that stress would be reduced by family social support. This was not the case. However, it was reduced by a positive teacher-parent relationship (as measured by either the PTRS or TPRS). One element of this relationship is undoubtedly social support, and it is possible that the positive relationship here reduced any affects from general social support. We also found that stress was associated with the severity of the child's condition and socioeconomic status, such that greater severity and lower SES were associated with increased amounts of stress.

There is not much that professionals can do about severity of the child's condition or family SES. However, they can seek to improve their relationship with parents. This is important to do not only because it seems to have the effect of reducing stress, but also because lower stress is associated with higher expectations for the child's progress. This makes sense, as it is likely the teacher-parent relationship influences optimism on the part of parents, and in this vein we found an association between the teacher-parent relationship and parent expectations. This positive expectation was also associated with increased social support.

Higher parent expectations for their child's progress led to greater teacher satisfaction with child progress. Thus it is worth increasing parent optimism about their child.

In summary, all forms of social support seem to increase parent expectations for their child's progress. A more positive teacher-parent relationship also reduces parent stress. The teacher-parent relationship itself, stress, and expectations all influence child outcomes.

Teacher and Child Relationship

We assessed this relationship using the Student Teacher Relationship Scale. We found, as expected, that this relationship was related to child progress, as measured by teacher satisfaction with progress. Thus it is worth trying to find ways to improve this relationship.

We found that the relationship was improved by higher levels of teacher assessment of their preparation to work with the child. This suggests that on-going teacher training, as well as quality supervision, is important. No teacher can be expected to learn everything they need to

know through their certification program. There are too many different kinds of children and needs to learn everything at entry level. In addition, knowledge keeps changing, and teachers must keep up to date if they are to feel adequate. Quality supervision adds to the teacher's confidence in themselves by identifying teacher strengths and finding resources to address perceived weaknesses.

We also found the relationship was improved by a more positive teacher-parent relationship (as measured by the TPRS). It makes sense that teachers who feel positive about their relationship with parents will also come to feel positive about working with the child of those parents. We know, however, that the opposite is not always the case. Teachers may enjoy their relationship with a child even when they dislike the parents.

The teacher-child relationship also influenced teacher expectations for the child, such that a more positive relationship led to higher expectations. Expectations were also increased by a higher degree of teacher preparation. As with parent expectations, teacher expectations also led to higher levels of teacher satisfaction with progress. However, unlike parent expectations, teacher expectations were not influenced by the nature of the teacher-parent relationship. It makes sense that teachers would be more influenced in their expectations by what they feel they can offer and by the quality of their relationship with the child, than by their relationship with the parents.

We did find that one teacher measure of the severity of the child's condition was related both to teacher preparation and teacher expectations, such that the greater the severity, the lower the teacher's sense of their preparation and the lower their expectations. This finding is an additional rationale for more inservice training and quality supervision of teachers.

In summary, the teacher and child relationship was influenced by the teacher-parent relationship and teacher preparation to work with the child. Both of these affect child progress. Child progress was also influenced by teacher expectations for progress, which in turn was influenced by the teacher-child relationship and teacher preparation.

Teacher and Parent Relationship

We assessed this relationship using the Teacher Parent Relationship Scale. There are two versions of this scale, one for teachers and one for parents. We obtained very little

variance on the parent version; however, variance was adequate on the teacher version, and this version correlated with most of the model variables.

An increasing number of authors have called for a closer partnership between parents and professionals, particularly teachers (Dunst, Johanson, Rounds, Trivette, & Hamby, 1992). It is clear from the survey results in the present study that the parent respondents are very happy with the relationship they have with their child's teacher at the Institute. On every measure of relationship and satisfaction, these parents gave high marks to their experience with the Institute. They were satisfied with the services offered, felt their relationship was extremely positive, felt they were supported, tried to be involved with their child's program, and felt their child's teacher was well prepared to work with their child.

No intervention program can hope to meet all family and child needs, and it was expected that the Institute would not have met all of the needs on the Family Need Survey. Most of the parents in responding to the list of needs indicated they were quite satisfied with the help they received from the Institute, even when they had received very little help with a particular need. The typical response for these situations was "Very satisfied, I don't need help with that." There was little difference among the need areas in terms of satisfaction with help received. The need areas where they had received the most help were for information and community services. These areas also ranked number 1 and 3 on the rank ordering of needs. While need for support was ranked number 2, and they had not received as much help in this area, it was also the area where they least wanted additional help. The area where they most wanted additional help was information. Parents never feel they have enough information. In responding to the question about more help, some parents said "Yes, you can always use more, can't you?" It would appear that the Institute is providing services that parents want from them, and that parents are satisfied with these services.

As we have seen, the teacher-parent relationship appears to have significant influence on child progress, as well as on other relationships in the child's mesosystem, the system that includes the family and the school (Bronfenbrenner, 1979). The results of this study suggest that any steps taken to improve this relationship will be of significant benefit to the child and the

child's relationships with parents and teacher. We will discuss the implications of this in the next section.

Implications

If the teacher's relationship with parents is critical to fostering the parent-child and teacher-child relationships as well as positive outcomes for the child, teachers clearly should do all that they can to facilitate that relationship. Unfortunately, the literature does not provide many prescriptions for improving the relationship between parents and professionals, and most that have been made are fairly general. Karnes and Teska (1980), for example, suggest training to help professionals learn to establish rapport and generate confidence in family members, to learn to work with all family members, to provide clear and accurate information, to provide appropriate feedback to parents, and to enlist the help of other parents.

Trout and Foley (1989) pose a reasonable question: "When are we, as professionals, going to stop being surprised when human beings have human reactions to that which is, for some, the most overwhelming, power-robbing, guilt-producing, isolating, and psychologically challenging event of their lives?" (p. 58). They suggest that professionals acknowledge the complex and transactional nature of development, respect diversity and the developmental nature of parenthood, respect the decision making and autonomy of each family, and seek to promote the self-sufficiency and self-esteem of families.

These recommendations seem reasonable, but can sound like platitudes. Gallagher, Beckman, and Cross (1983) are somewhat more specific, basing their recommendations on parental accounts of outstanding professional support. "Consistently, these accounts describe professionals who listened to parental concerns, gave needed information, and assisted parents in coping with the service system" (p. 1983). In other words, they helped parents to meet their needs. One could look at the list of needs on the Family Need Survey, and seek to help parents to meet them. Note that what is really being suggested here is that professionals ought to provide services generally associated with social support networks. In other words, the professionals being described by the parents in the study by Gallagher, Beckman, and Cross (1983) seem to be providing the social support services of emotional and instrumental aid. Emotional support includes such activities as visiting, sympathizing, listening, and caring.

Instrumental support may include material, financial, or informational aid. Together, they provide the external resources needed for meeting stressful situations.

This admittedly goes a bit beyond many recommendations for professional involvement. Dunst and Trivette (1987), for example, examine helping models and activities for family empowerment that serve to increase the recipient's sense of responsibility for future outcomes and attributions of self-efficacy. Regarding social support they recommend promoting "the family's use of natural support networks and neither replaces(ing) or supplants(ing) them with professional services" (p. 452). But is there really a problem with becoming a part of a parent's natural support system?

Professionals joining the network

There are three major reasons for professionals to consider becoming a part of the social support network of parents with children who have disabilities. First, since social support has been identified in the literature as a significant variable in helping parents deal with stress, and in addition as a correlate with the child's progress, professionals who provide social support, and thereby improve their relationship with parents, can have a tremendous impact on that child.

A second reason for professionals to provide social support is because many of the needs families experience can be met through social support.

Information. Few parents giving birth to a child with disabilities know very much if anything about the nature of the particular condition. In a very short period of time they have a great deal to learn. Such learning may involve fairly sophisticated home medical treatment, along with courses in physiology, biology, genetics, medical/social/mental health service provision, and perhaps most demanding of all, how to live without knowing what they wish they knew. This information may come from professionals, but it is more trusted when it comes from social support network members.

Support. Parents certainly still need support, but the support must come from individuals who can empathize in some way with the experience. This means that some previous or existing network members will withdraw. Others will say or do "the wrong thing" and lose

their membership accordingly. Only those who through accident or skill say and/or do "the right thing" will remain. Parents do not have the time to train network members.

Finances. Financial assistance is material aid, or instrumental support. Parents may need to turn to their own parents or siblings for support during rough periods. Other network members may assist with temporary child care, home repair, transportation, and even food when the needs arises. A professional may be able to direct parents to other sources of financial assistance.

Explaining to Others. Parents have a lot of explaining to do with family, neighbors, co-workers, and professionals. Social support network members can make this easier by spreading information out to other members, and by facilitating the explanations parents make. Professional members can model methods of explaining.

Community Resources. Few people are aware of all the resources that may be available to assist parents in raising their child with a disability (or without). However, a network of relationships can be a quick way to identify resources. Parents who, for example, need to find a temporary wheelchair for their child, may quickly locate one through their support network contacts. Clearly, professionals have much to offer here.

The third reason for professionals to become a part of the social support network of parents is to influence the perspective of the network toward services. This is not something to be done directly, but is a significant outcome from participation. Consider, for example, the view parents have toward schools. Parents who belong to a network of parents with children who have disabilities invariably consult that network concerning school programs for their child. Which teacher, which program, how to cope with the administrator, staff, teachers, are all important biases to be learned. If a teacher or other school professional becomes a part of the network, they will already have shaped those biases. The result can be better communication between family and school.

Teachers who wish to increase their effectiveness with parents of children with disabilities should consider the following in relation to the network:

1. Seek to enter the network by providing both emotional and instrumental aid to parents. This means helping families to meet the needs listed above. It also means being

available to parents. The support cannot be provided if parents cannot get through to the teacher. This can mean giving out home phone numbers, and taking calls from panicked parents late at night. In fact, it implies breaking down some of the professional-client distance that conventional wisdom (read medical model) has for so long supported. It means interacting with parents as equals who share in a concern for the well-being of a child.

2. Help parents who are not a part of a social support network to get in touch with potential network members. Since the influence of social support on family and child outcomes is well established, teachers should help families to access or establish a social support network.

3. Strengthen the network by encouraging the active participation of other professionals, and by helping members to organize more formalized support groups/systems. The Individual Family Service Plan (IFSP) required in the United States as a part of the federal law is an ideal mechanism for this. In identifying family needs and family goals, the IFSP essentially identifies the kinds of resources the family requires to better cope with their situation. Professional members of the IFSP team ideally link together and with other support networks to identify the kind of support they can provide to assist the family in meeting their needs and goals.

4. The characteristics of persons who provide social support is a major gap in the social support literature. However, the skills needed to provide social support are likely to be similar to those needed by consultants. Skills in personal process, giving and receiving feedback, listening, problem-solving, along with an openness to the unlikely (Conoley & Conoley, 1982), are probably important.

5. Above all else, teachers need to recognize and affirm the central position of parents in the provision of services. A major effect of the IFSP is to place family as opposed to child in the center of the service provision network. Interventions then become family focused. Conoley (1987) provides a taxonomy of family-focused interventions. The first level involves providing and sharing information, the second collaborative home/school programs, the third the active involvement of parents within the school, and the fourth, "the reciprocal education of parents and teachers by each other" (p. 198). These levels increasingly emphasize the central position of parents in the education/intervention of their children, and suggest a reciprocal network of support.

The competent community

Recently, community psychologists have drawn attention to the concept "sense of community." According to Newbrough and Chavis (1986), this "refers to the personal knowing that one has about belonging to a collectivity. There is an I-you sense that differentiates oneself from the collectivity, and there is a We sense of belonging together. These are reciprocal aspects of belonging, each requiring the other" (p. 3). It nicely describes the ideal sense of belonging described in the relationship model at the beginning of this paper.

McMillan and Chavis (1986) identified four elements of a definition of sense of community. Membership is the feeling of belonging or sense of personal relatedness. Influence is a sense of mattering, or of making a difference to the group. Integration and fulfillment of needs is the expectation that member's needs will be met through their membership in the community. Finally, a shared emotional connection is having a shared history, and a common place and time together, with similar experiences. Thus "Sense of community is a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together" (p. 9).

This sense of community may ideally describe the experience of having a close social support network, and may also describe the ideal community environment for the raising of a child with disabilities. When it comes to describe the entire network of individuals who are involved both formally and informally with parents in their efforts to raise their child, then we may have succeeded in providing a community where those efforts will be rewarded.

Iscoe (1974) outlined the nature of a "competent community." Briefly, the competent community is one that is able to identify, develop, and utilize resources directed toward coping with issues confronting it. Utilization of resources is considered an index of community mental health, and includes "the fuller development of the resources of the human beings in the community itself" (p. 608). When the relationship between family and school comes to involve a sense of community, and can be characterized as a competent community, this will mean that teachers have become a part of the family social support network.

Limitations and Suggestions for Future Research

Limitations

The most serious limitation to this study is the number of participants. This resulted in some lack of variance in certain measures (most notably the PTRS). Also, with only 27 children represented, we could not test the full model. The small sample size also calls into question the generalizability and replicability of the results. Should the study be repeated with a different group of participants, what is the probability that the findings would be the same? While that is an empirical question that can and should be studied, it is also related to the veracity of the model. If the model as proposed is “true”, then these results which support the model should be replicated a majority of the time. For the present, we can suggest that the model has some support, at least among parents who by and large feel supported by their teacher and program.

Murphy (1982) notes that many studies of the family with a child with disabilities lack analytical methods, control groups, representative samples, or adequate numbers. While the analyses in the present study go beyond frequency data, the sample’s representativeness can be questioned, and the numbers are few. In addition, it would have been ideal if the study could have used contrasting groups on the relationship with the teacher (or Institute) variable. It is nice that the parents were so positive toward the Institute and their child’s teacher, but it interfered with the research project.

Another limitation to the study was the use of an early childhood sample. We do not know whether the associations found are limited to this age group. Perhaps early childhood teachers are particularly predisposed to forming relationships with parents. All of the homestart teachers traveled to the child’s home. In addition, parents of this age group may be particularly sensitive to the impact of professionals, as their experience is new and perhaps still raw. Thus the question as to whether this relationship continues to be important in later years still needs to be answered.

Murphy (1982) suggests that mixing children with different disabilities in a study may confuse some issues. Do parents of a child with a mild hearing loss have the same experience as parents of a child with multiple disabilities? The inclusion of children with mild hearing loss in this study strengthens the results, but it does not help to sort out potential differences between groups. The finding of a strong correlation between our measures of stress and severity

supports the possibility that experiences may be different, and that the parent-teacher relationship could have differing effects depending on severity.

This research was conducted at an Institute in Australia. It's generalizability to programs in other parts of the world could be called into question.

There were problems with several instruments. Difficulties with the Questionnaire on Resources and Stress were discussed above. "Popular" (which the QRS is) does not necessarily mean "useful". A better instrument, that does not confuse demands, stresses, and strains is urgently needed. Perhaps an instrument that measures the quality of the parent-child relationship could be developed.

The Family Support Scale was not found to be related to Stress in this study, which was unexpected, given the research on stress and social support. One problem with the scale is that it measures cumulative support from all sources. The scoring implies that those people who have a wide variety of support of high quality are going to experience more benefit than those who receive high quality support from only a few sources, because the former will receive higher scores. Is it possible that receiving high quality support from the Institute compensates for a lack of support from other sources? If that is the case, since most of the participants indicated the program was supportive, could that account for the lack of association with other variables, such as Stress? A larger sample, with more variability in its relationship with the Institute would have enabled a test of this possibility.

The most serious measurement problem is with the outcome measures. Researchers like standardized assessment instruments as they at least give the appearance of reliability and validity. However, assessment in early childhood is challenging (Peterson, 1987). For one thing, the behavior of young children can vary considerably from day to day, so that one time assessments are generally not accurate. Second, early childhood is a period of rapid growth and development, and children at this age may change in a matter of a few weeks. Third, there is a great deal of variability in rates of timing of development in early childhood, so that signs of difficulty may not be predictive of future problems (Peterson, 1987). According to Peterson (1987), assessment in early intervention must be a "continuous process" as opposed to a single event, which includes: casefinding, screening, diagnosis, educational assessment, performance

monitoring, and program evaluation (p. 324). Carrying out these tasks requires considerable skill, and does not generally lend itself to a “score” or “number” which can be placed in a statistical formula. Our use in the present study of “gains” seems like an appropriate strategy, although it may need some refinement. The lack of association found with most of the measures may have been due to the few number of parents who responded.

Future Research

The following are suggestions for future research on this topic.

1. Replicate the present study with a larger and more diverse sample. If possible, carry it out over a longer period of time so that more children can be included. One way would be to make the collection of this data standard practice after something like six months at the Institute. Then the outcome data could be collected at another set point, from three to six months. Over a period of two to three years, considerable data would be collected, and would be much more representative if all parents were routinely asked to participate.

2. Several measures need to be reviewed. First, a substitute for the QRS should be sought, or at least further study of the two measures (stress and severity) used here should be undertaken. Second, other methods for assessing social support should be investigated. Third, it would be helpful to attempt to validate the gains approach to the assessment of outcome.

3. The general model should be tested with other programs, age groups, and in other countries.

4. With larger samples, other variables such as SES and severity could be added to the model, and the model could be tested using structural equation modeling. Linear structural equation modeling is an increasingly popular and powerful method for testing theories. It builds upon path analysis by testing the entire model simultaneously (Newcomb, 1990).

5. With additional studies of the relationships considered here, future meta-analyses may shed more light on the significance of the teacher and parent relationship.

Table 1

Disabilities of Children in Sample

Type	Frequency According to Parents	Frequency According to Teachers
Mild to Moderate Hearing Loss	6	6
Moderate to Severe Hearing Loss	4	5
Severe to Profound Hearing Loss	16	11
Visual Impairment	11	10
Down Syndrome	2	2
Neurological Problems (e.g. epilepsy)	7	6
Motor Problems (e.g. cerebral palsy)	9	7
Heart/Lung Problems	3	0
Developmental Delay	4	6

Table 2

Categories For Areas of Desired and Obtained Progress

Category	Frequency According to Parents	Frequency According to Teachers
Speech/Language/Communication	18	18
Academic Readiness	6	7
Independence/Self-Help	1	1
Motor and Physical Development	9	9
Socialization/Behavior	4	3
Concept and Intellectual Development	4	7
Eating/Feeding	1	0
Self-Esteem	0	2
Sensory Development	1	7

Table 3

Means and Standard Deviations for Parent-Child Variables

Variable	Mean	Standard Deviation	Range
Stress	9.96	6.95	0-24
Severity	7.33	5.14	1-17
Expectations	3.44	1.25	1-5
FSS	40.96	12.68	19-66
SES	15.26	6.94	5-30

Table 4

Parent and Teacher Estimates for Child Progress

Estimate	Frequency and (Percentage) According to Parents	Frequency and (Percentage) According to Teachers
Much less than average	2 (7.4)	2 (7.7)
Somewhat less than average	4 (14.8)	4 (15.4)
An average amount	8 (29.6)	8 (30.8)
Somewhat more than average	6 (22.2)	10 (38.5)
Much more than average	7 (25.9)	2 (7.7)
missing data	-	1

Table 5

Intercorrelations Among Parent-Child Variables

	Severity	Expectations	FSS	SES
Stress	.70 p=.000	-.36 p=.068	-.14 p=.483	.52 p=.006
Severity		-.48 p=.011	-.09 p=.655	.25 p=.215
Expectations			.37 p=.058	.13 p=.510
FSS				-.13 p=.508

Table 6

Means and Standard Deviations for Teacher-Child Variables

Variable	Mean	Standard Deviation	Range
STRS	120.82	11.61	85-137
Condition	2.85	1.06	1-5
Severity	2.96	.85	2-4
Expectations	3.23	1.07	1-5
Prepared	2.04	1.04	1-5

Table 7

Intercorrelations Among Teacher-Child Variables

	Condition	Severity	Expectations	Prepared
STRS	-.30 p=.124	-.14 p=.488	.36 p=.074	-.38 p=.058
Condition		.71 p=.000	-.26 p=.192	.27 p=.187
Severity			-.43 p=.028	.47 p=.016
Expectations				-.59 p=.002

Table 8

Distribution of Scores on PTRS

Score	Frequency	Percent
125	4	14.8
124	1	3.7
123	4	14.8
122	2	7.4
121	2	7.4
120	3	11.1
119	1	3.7
118	2	7.4
117	2	7.4
116	3	11.1
114	1	3.7
112	1	3.7
107	1	3.7

Table 9

Distribution of Scores for Satisfaction, Relationship, and Support

Score	Satisfaction Freq Percent		Relationship Freq Percent		Support Freq Percent	
Extremely (satisfied, positive supported)	17	63.0	13	48.1	11	40.7
Very	7	25.9	10	37.0	13	48.1
Satisfied/Positive/ Supported	3	11.1	4	14.8	2	7.4
Neutral					1	3.7
Unsatisfied/Negative Unsupported						
Very						
Extremely (unsatisfied,negative, unsupported)						

Table 10

Rank Order of Family Needs

Need	Mean	Standard Deviation
Information	2.19	1.36
Support	2.30	1.17
Community	3.74	1.53
Explaining	4.11	1.53
Financial	4.33	1.33
Child Care	4.33	1.82

Table 11

Means and Standard Deviations for Questions on Family Needs Survey

Has someone from the Institute helped you to:	Received (0-3)	Satisfied (1-6)	More (1-3)
Needs for Information			
1. gather more information on how children grow and develop	2.48(.80)	1.37(.57)	1.93(.87)
2. gather more information on how to play with or talk to your child	2.37(1.08)	1.56(.93)	1.93(.96)
3. gather more information on how to teach your child	2.52(.85)	1.41(.64)	1.44(.75)
4. gather more information on how to handle your child's behavior	1.70(1.35)	1.56(1.00)	1.67(.83)
5. gather more information about your child's disability	2.19(.96)	1.71(.82)	1.78(.89)
6. gather more information about services that are presently available for your child	2.37(.97)	1.78(.93)	1.67(.92)
7. gather more information about services your child might receive in the future	1.82(1.18)	1.92(1.04)	1.44(.80)
Total Information	2.21(.59)	1.61(.62)	1.69(.67)

Needs for Support

8. learn how to talk to someone

	in your family about your concerns	.89(1.31)	1.52(1.05)	2.37(.84)
9.	learn to have friends to talk to	.48(.89)	1.78(1.25)	2.44(.89)
10.	learn to find time for yourself	.74(1.16)	1.78(1.15)	2.33(.92)
11.	help your spouse accept your child's disability	.78(1.12)	1.70(1.10)	2.44(.85)
12.	discuss problems within your family and reach solutions	1.07(1.21)	1.74(1.16)	2.15(.91)
13.	learn how to support each other within the family during difficult times	.85(1.2)	1.89(1.25)	2.11(.97)
14.	decide within the family who will do household chores, child care, and other family tasks	.30(.87)	1.78(1.37)	2.56(.85)
15.	decide within the family on recreational activities and to engage in them	.70(.99)	1.70(1.14)	2.41(.85)
	Total Support	.73(.68)	1.74(1.00)	2.36(.66)

Needs for Financial Assistance

16.	find financial aid to pay for such expenses as food, housing, medical care, clothing, or transportation	.41(.93)	1.70(1.17)	2.30(.95)
17.	get special equipment to meet your child's needs	2.04(1.22)	1.52(.98)	1.56(.85)
18.	find financial aid to pay for therapy, daycare, or other services your child needs	.63(1.15)	1.56(1.16)	2.26(.90)

19.	find financial aid to pay for baby-sitting or respite care	.07(.39)	1.82(1.33)	2.56(.75)
20.	find financial aid to pay for toys your child needs	.26(.81)	1.67(1.14)	2.67(.73)
Total Financial		.68(.51)	1.65(1.05)	2.27(.54)

Needs for Explaining Condition to Others

21.	explain your child's condition to your parents, or your spouse's parents	.89(1.19)	1.82(1.24)	2.30(.91)
22.	explain your child's condition to your other children	.19(.48)	1.93(1.47)	2.44(.85)
23.	know how to respond when friends, neighbors, or strangers ask questions about your child's condition	.56(.97)	1.63(1.04)	2.56(.75)
24.	explain your child's condition to other children	.52(.89)	1.93(1.47)	2.15(.99)
25.	gather reading material about families who have a child like yours	1.67(1.24)	2.11(1.42)	1.93(.96)
Total Explaining		.76(.65)	1.88(1.14)	2.27(.67)

Needs for Community Services

26.	locate baby-sitters or respite care providers who are willing and able to care for your child	.30(.72)	1.74(1.06)	2.30(.95)
27.	locate appropriate education and/or school services for your child	2.07(1.21)	1.70(1.27)	1.67(.83)

28.	meet and talk with other parents who have a child like yours	1.52(1.28)	2.00(1.30)	1.67(.88)
29.	locate a doctor who understands you and your child's needs	.26(.81)	2.00(1.52)	2.41(.80)
30.	seek support outside of the school	.93(1.00)	1.59(1.01)	2.19(.88)
Total Community		1.02(.64)	1.81(.95)	2.06(.63)

Table 12

Correlations Between Parent-Institute Relationship Measures and PTRS and TPRS

	PTRS	TPRS
Satisfaction	-.01 p=.943	-.0004 p=.999
Relationship	-.46 p=.016	-.28 p=.155
Support	-.36 p=.069	-.18 p=.371
Involved	-.46 p=.016	-.38 p=.049
Training	-.61 p=.001	-.48 p=.011
Received	.03 p=.867	.29 p=.148
Satisfied	-.20 p=.327	-.62 p=.001
Want More	.03 p=.898	.32 p=.102

Table 13

Correlations Between Model Variables and PTRS and TPRS

	PTRS	TPRS
Stress	-.33 p=.095	-.56 p=.003
FSS	.02 p=.930	.09 p=.645
P-expect	.004 p=.985	.35 p=.076
STRS	.30 p=.124	.74 p=.000
Prepared	-.28 p=.164	-.48 p=.012
T-expect	.13 .512	.28 .158

Table 14

Frequencies for Degrees of Match with Parent and Teacher Goals and Gains

Score*	Frequency and (Percentages)			
	Parent & Teacher Goals	Parent & Teacher Gains	Goals & Gains Parent	Goals and Gains Teacher
1	3 (11.1)	1 (5.9)	11 (61.1)	12 (48.0)
2	13 (48.1)	9 (52.9)	4 (22.2)	11 (44.0)
3	8 (29.6)	7 (41.2)	3 (16.7)	2 (8.0)
4	3 (11.1)	0	-	-

*Scores differ among the matches. See text.

Table 15

Frequencies for Outcome Measures: Importance, Expectation, and Satisfaction

Score	Frequencies and (Percentages)					
	Importance		Expectation		Satisfaction	
	Parent	Teacher	Parent	Teacher	Parent	Teacher
0	6 (33.3)	8 (33.3)	-	-	-	-
1	3 (16.7)	3 (11.1)	2 (11.8)	1 (4.3)	10 (55.6)	10 (45.5)
2	4 (22.2)	7 (29.2)	8 (47.1)	9 (39.1)	5 (27.8)	10 (45.4)
3	4 (22.2)	5 (20.8)	6 (35.3)	12 (52.2)	3 (16.7)	1 (4.5)
4	0	0	1 (5.9)	1 (4.3)	0	1 (4.5)
5	1 (5.6)	1 (4.2)	0	0	0	

Table 16

Correlations Between Outcome Measures and PTRS and TPRS

	PTRS	TPRS
Parent Goals & Gains	-.32 n=18 p=.197	-.34 n=18 p=.162
Teacher Goals & Gains .02	n=25 p=.911	-.24 n=25 p=.241
Parent Importance	-.04 n=18 p=.884	.04 n=18 p=.866
Parent Expectation	-.15 n=17 p=.563	.12 n=17 p=.637
Parent Satisfaction	-.05 n=18 p=.834	.05 n=18 p=.845
Teacher Importance	.08 n=24 p=.717	.33 n=24 p=.115
Teacher Expectation	-.01 n=23 p=.959	.02 n=23 p=.922
Teacher Satisfaction	-.32 n=22 p=.145	-.51 n=22 p=.014

Table 17

Data Points for TPRS and TSAT

TPRS Score	TSAT Score
125	1
125	1
125	1
125	1
125	2
124	2
122	1
122	1
121	1
116	1
114	2
112	2
111	2
107	2
106	2
105	1
104	1
103	2
102	2
102	4
99	3
80	2

Table 18

Correlations Between Variables in the Model

	Stress	STRS	P-expect	T-expect	FSS	Prepared	TSAT
TPRS	-.56 (27) p=.003 -.28 - -.76	.74 (27) p=.000 .55 - .86	.35 (27) p=.076 .03 - .61	.29 (26) p=.158	.09 (27) p=.645	-.48 (26) p=.012 -.18 - -.70	-.51 (22) p=.014 -.19 - -.74
Stress		-.78 (27) p=.000 -.03 - -.62	-.36 (27) p=.068	-.14 (26) p=.492	-.14 (27) p=.483	.29 (26) p=.153	.45 (22) p=.036 .11 - .70
STRS			.43 (27) p=.024	.36 (26) p=.074 .03 - .62	-.04 (27) p=.861	-.38 (26) p=.058 -.06 - -.63	-.54 (22) p=.009 -.22 - -.76
P-expect				.30 (26) p=.135	.37 (27) p=.058 .05 - .62	-.20 (26) p=.330	-.48 (22) p=.024 -.14 - -.72
T-expect					-.21 (26) p=.312	-.59 (25) p=.002 -.31 - -.78	-.53 (21) p=.014 -.25 - -.75
FSS						.02 (26) p=.924	-.31 (22) p=.159
Prepared							.49 (22) p=.021 .16 - .72

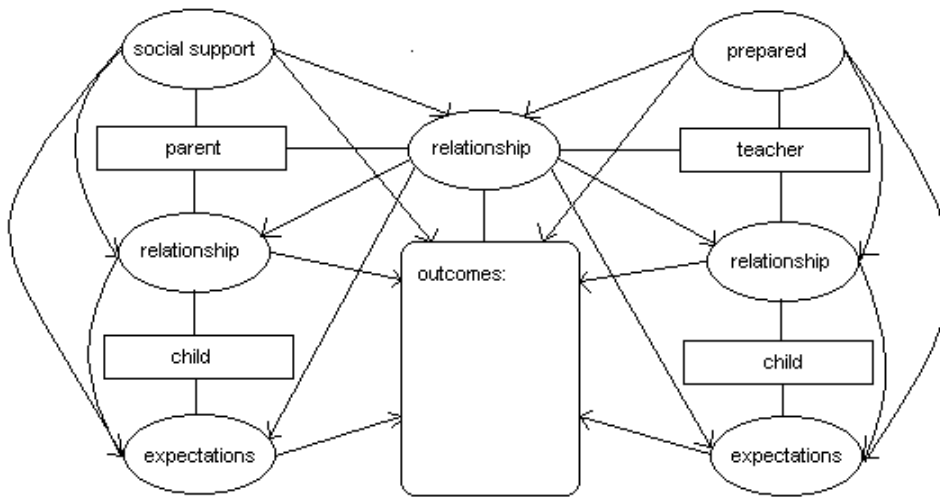


Figure 1. Proposed Model showing three relationships (parent-teacher, parent-child, teacher-child), along with parent social support and expectations, teacher preparation and expectations, and outcomes, and the hypothesized directional associations among them.

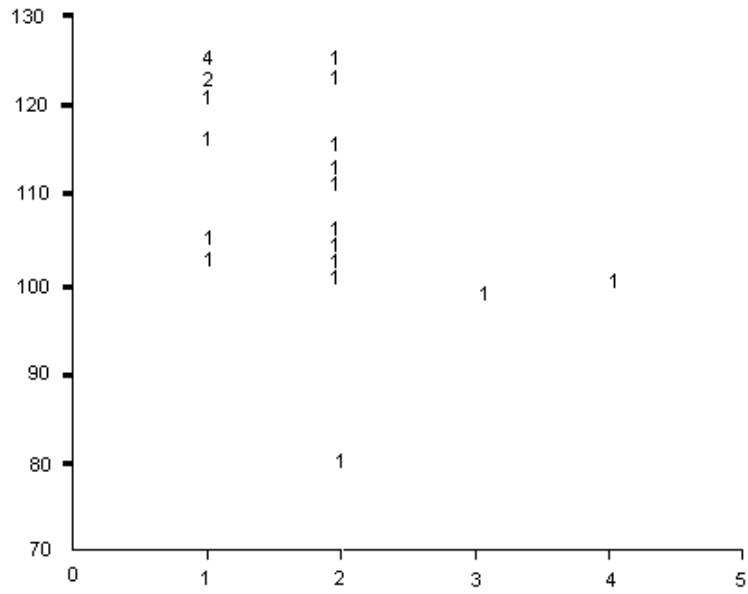


Figure 2. Bivariate scatterdiagram of TPRS and TSAT.

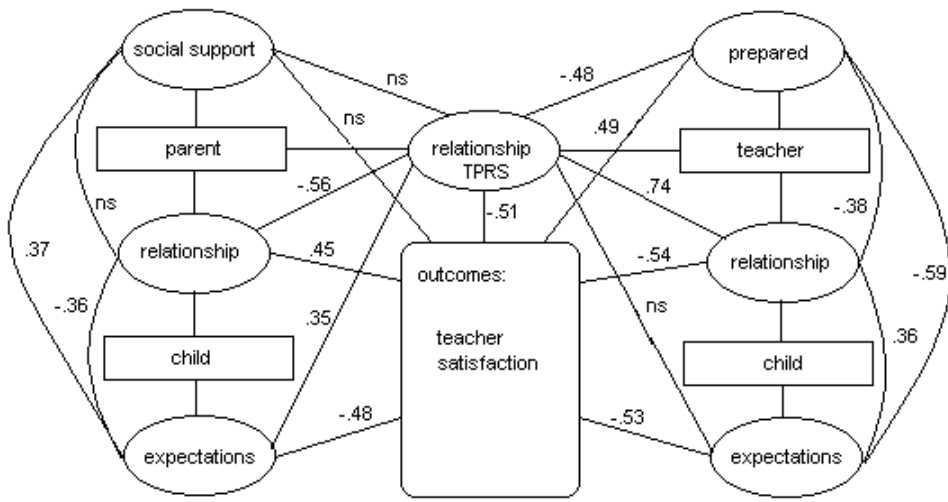


Figure 3. Proposed Model showing obtained significant correlations between variables.

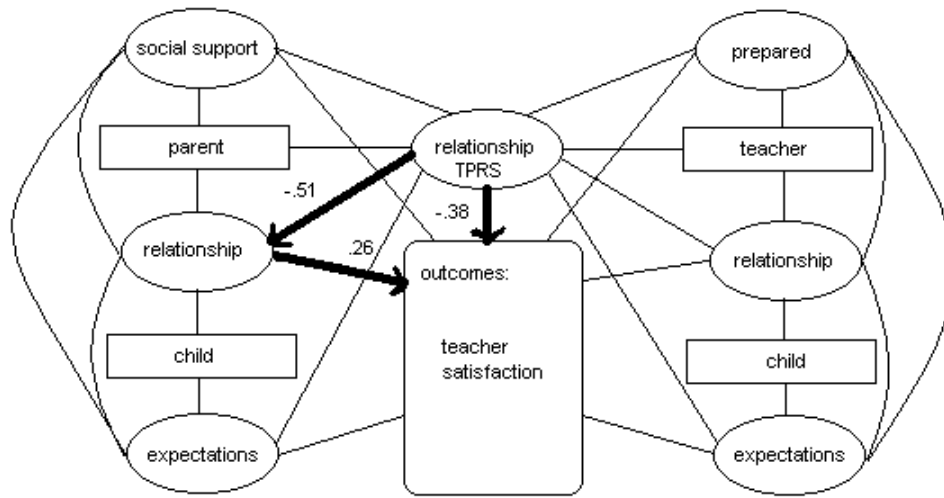


Figure 4. Path diagram with solved paths: Effects of teacher-parent relationship and parent-child relationship on outcome.

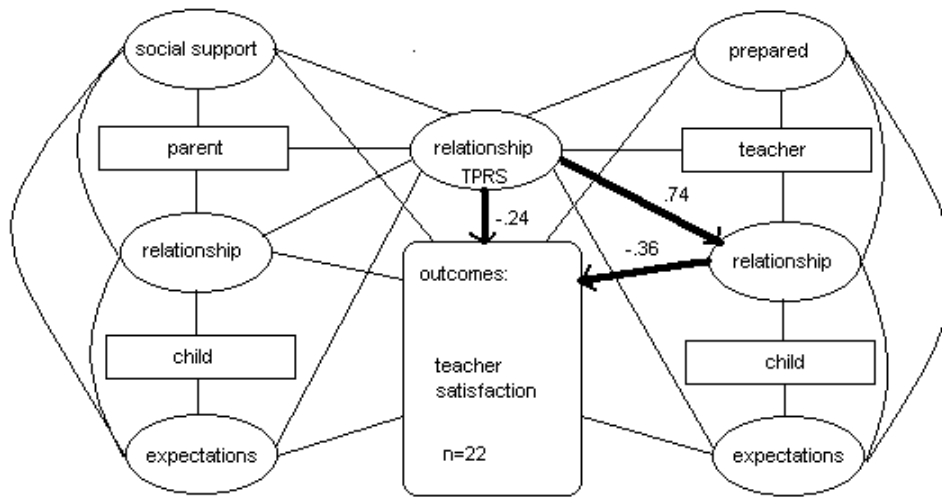


Figure 5. Path diagram with solved paths: Effects of teacher-parent relationship and teacher-child relationship on outcome.

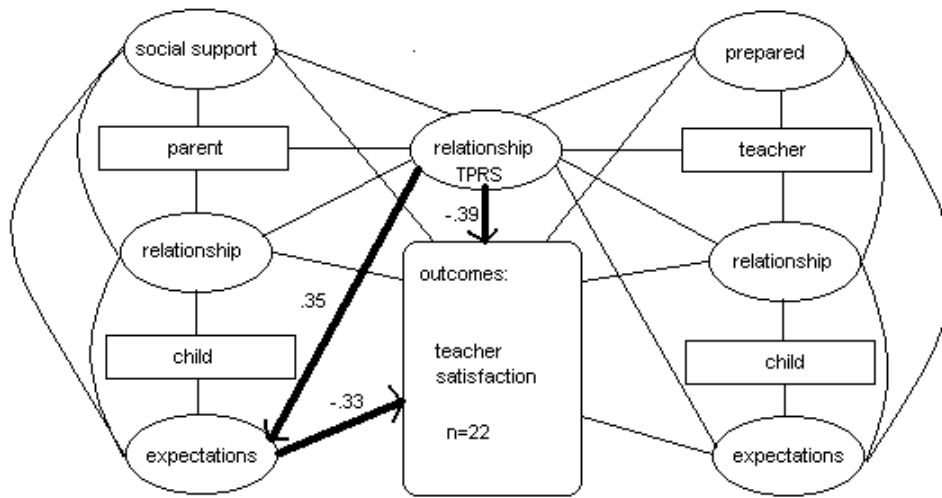


Figure 6. Path diagram with solved paths: Effects of teacher-parent relationship and parent expectations on outcome.

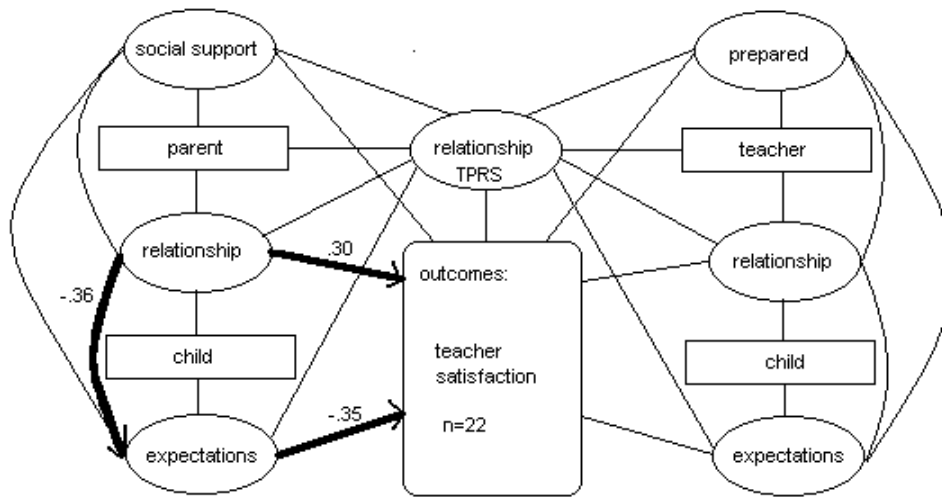


Figure 7. Path diagram with solved paths: Effects of parent-child relationship and parent expectations on outcome.

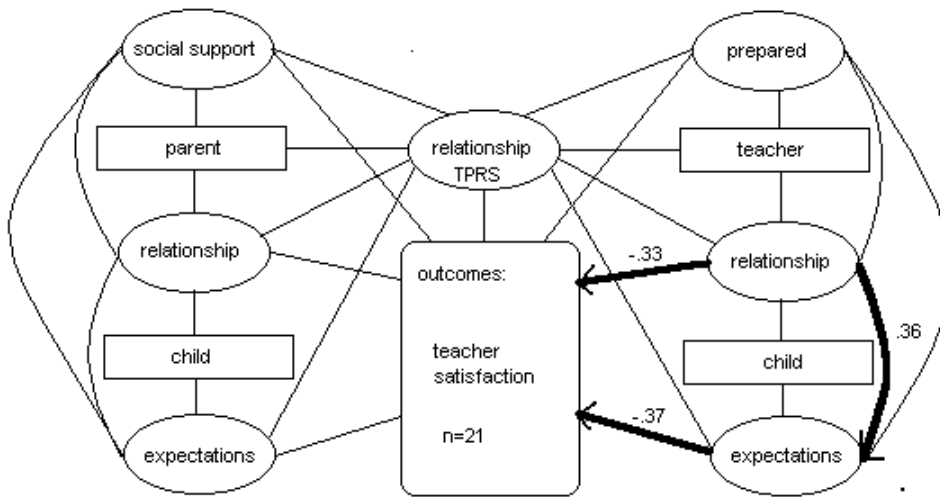


Figure 8. Path diagram with solved paths: Effects of teacher-child relationship and teacher expectations on outcome.

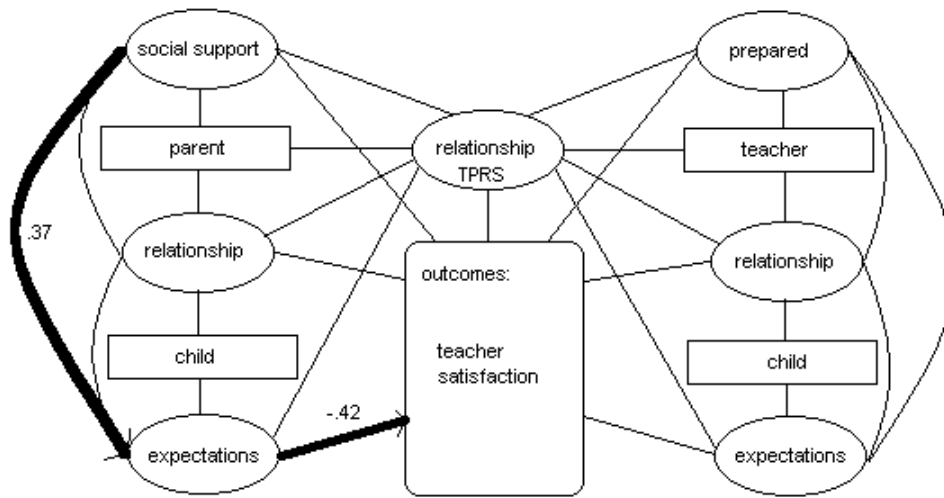


Figure 9. Path diagram with solved paths: Effects of social support and parent expectations on outcome.

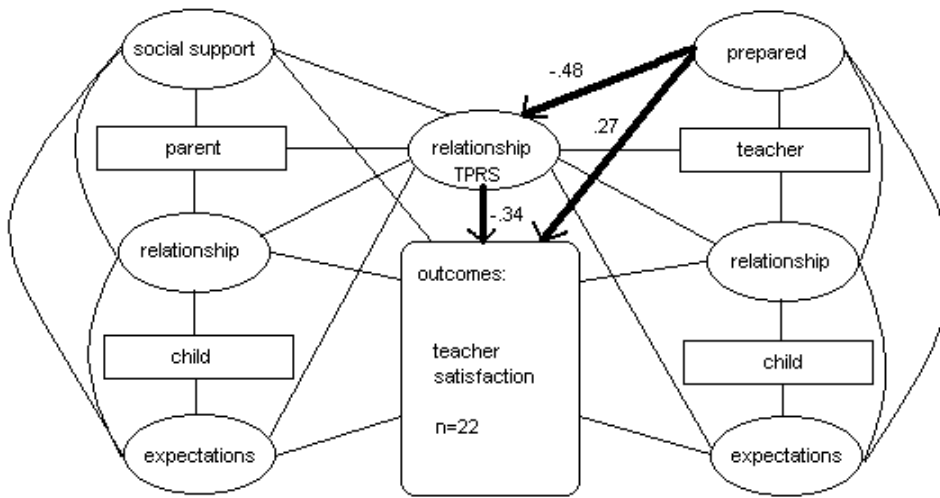


Figure 10. Path diagram with solved paths: Effects of teacher preparation and teacher-parent relationship on outcome.

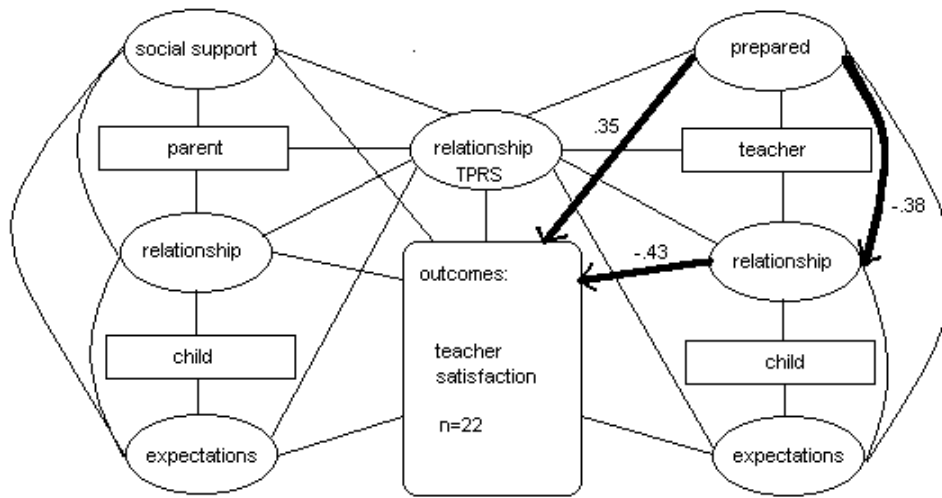


Figure 11. Path diagram with solved paths: Effects of teacher preparation and teacher-child relationship on outcome.

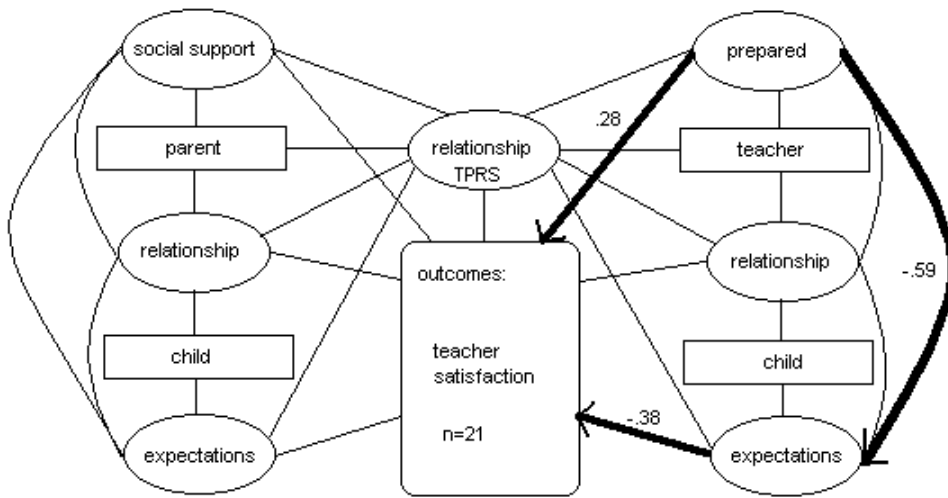


Figure 12. Path diagram with solved paths: Effects of teacher preparation and teacher expectations on outcome.

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