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Competence and Acceptance of Children with Developmental Disabilities: An Examination of Self-Concept

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COMPETENCE AND ACCEPTANCE OF CHILDREN WITH DEVELOPMENTAL DISABILITIES:

AN EXAMINATION OF SELF-CONCEPT

by

Cindy S. Smith

A thesis submitted in partial fulfillment
of the requirements for the degree

of

MASTER OF SCIENCE

in

Family and Human Development

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ABSTRACT

Competence and Acceptance of Children with Developmental Disabilities: An Examination of Self-concept

by

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Utah State University, 1994

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Department: Family and Human Development

The purpose of this research was to examine the relationship of the self-concepts of a sample of 248 children with developmental disabilities with demographic variables and measures of child functioning and family situational variables. In addition, responses on a measure of self-concept were compared with those of a normative sample provided by Harter. Results indicated that, using this measure and these populations, there were no differences in the self-concept of children with disabilities and those without disabilities. Canonical correlation analysis indicated that children's cognitive achievement and independent functioning skills were moderately related to their self-concepts, but demographic variables and family functioning explained very little of the variance of the self-concept constructs as measured here. (106 pages)

INTRODUCTION

In recent years the topic of self-concept has been widely investigated by researchers from nearly all disciplines of the social sciences. This is especially true in the field of early child development (Sheridan, 1991). Researchers have demonstrated that the self-concept of a young child in the formative years is a building foundation for later life (Cutright, 1992). Few aspects of development are as fundamental to a child's effective daily functioning and general well-being as are their acquisition of a positive self-concept and the accompanying feelings of personal adequacy and self-worth (Kantrowitz & Wingert, 1989). Indeed, researchers have associated low self-concept in children with outcomes such as depression and hopelessness (Abramson, Metalsky, & Alloy, 1989; McCauley, 1988), and high self-concept with positive outcomes, such as social adaptability and positive peer interactions (Pettit, Dodge, & Brown, 1988). As Kiester (1973) has stated, "[Self-concept] is the foundation on which personality is built and the primary determinant of behavior" (p. 1).

With increased emphasis on this important construct, the need for specialized research efforts with exceptional children, such as those with developmental delays, has become apparent (Coleman & Minnett, 1993; Martinek & Karper, 1982). These children, who already may face both developmental and physical challenges, face social and emotional difficulties that other children do not (Samuels, 1981). Researchers have suggested that a self-perpetuating cycle of failure becomes established early in the lives of children with even minor disabilities (Chapman, 1988). Thus, the self-concept of exceptional children is of critical importance, and the few researchers who have studied this topic stress that it is an area that needs additional research (Ashman, 1990; Vaughn, Haager, Hogan, & Kouzekanani, 1992).

This research study investigated the self-concepts of young children with moderate to severe developmental disabilities. Specifically, the theory and measurement techniques developed by Harter and Pike (1984) were used in the present study to explore the relationships of child self-concept with demographic variables such as child's age and gender, mother's age and education, and father's education and family income. Measures of child and family functioning were also investigated to determine their relationship with self-concept. The methodology and results of this study are described in the sections that follow. First, however, terms used throughout this paper are defined for the benefit of the reader. Then, scientific literature relevant to children's self-concept will be carefully reviewed to establish the basis for the present research.

Definition of Terminology

Self-Esteem

Self-esteem is an evaluative orientation toward the self, generally assessed in terms of positive or negative value. Self-esteem, as a psychological construct, is concerned with whether or not people evaluate themselves in a positive manner, and if so, the strength of their positive self-attitudes (Damon, 1983). Self-esteem refers to our judgments about our own worth, which may be influenced by seeing how others perceive us as significant and worthy (Marshall, 1989).

Self-Concept

Self-concept includes the complex mental representation of efficacy, the degree of expected success as life's problems and tasks are confronted, and subjective feelings of worth (Samuels, 1977). It involves self-appraisal and reflexive judgments. Self-concept deals with the descriptive aspects of the self, which can be either evaluative or nonevaluative (Brinthaupt & Lipka, 1992). Due to the similarities in the constructs of "self-esteem," "self-concept," "self-worth," and "self-acceptance," they will be used as synonyms in this paper, but the term "self-concept" will be used most frequently.

Developmental Disability

Developmental disability refers to conditions originating during the developmental years (before the age 18) that may impede an individual’s ongoing development. To be classified as developmentally delayed, children need to exhibit a delay in one or more of the following areas of development: cognitive, physical (including vision and hearing), language, psychosocial, or self-help. Disability refers to a variety of conditions that can interfere with a person’s ability to perform in the same way that a normally developing person can (Peterson, 1987).

REVIEW OF LITERATURE

To establish the theoretical and empirical grounds for the present study, research dealing with the construct of self-concept in young children with developmental disabilities will be examined in this section. Following a general review of common theoretical orientations, the areas of cognitive competence, physical competence, acceptance by peers, and maternal acceptance, derived from Harter's (1984) model of self-concept, will be examined more specifically. The need for additional research in these areas will also be demonstrated.

The Origin of Self-Concept: Acquired or Developed?

Researchers have long debated whether self-concept is developed or acquired. Erickson (1959) proposed that children develop through a series of stages and that in order to move to higher stages of development, the lower ones must first be addressed and resolved successfully. Erickson's first two stages, "Trust vs Mistrust" and "Autonomy vs Shame and Doubt," deal with some of the dimensions of self-concept: Children must feel trust with a significant figure and have a sense of autonomy within themselves. More recently, Warger and Kleman (1986) have stated that a child's positive self-concept is developed through creative expression. Because creative expression is related to cognitive functioning, a developmental process, some researchers have argued that the self-concept of a child is also developmental in nature (like cognition) (Blythe & Traeger, 1983).

On the other side of the argument, Snowdon and Brodaty (1986) have asserted that even older people continue to experience events which impact upon their self-concept; thus, self-concept must be acquired. Similarly, Brinthaupt and Lipka (1992) have recently argued that self-concept is very personal; the individual is the final arbiter of what will and will not be included in self-esteem. The effects of personal experience give a certain authority to the individual's own perspective on the nature of self. These arguments follow along those of Mead (1934), who insisted that, because we are all social beings living in a social environment, self-esteem is acquired through social interactions; we must all acquire our own self-esteem.

Some researchers have opted for a more rational, compromising approach in the debate of acquired versus developed self-concept (a replay of the age-old nature-nurture issue). For example, Alawiye and Alawiye (1984) believed that self-esteem is both acquired and developed. They viewed it as being acquired because the social nature of human beings and the influence of the environment upon behavior cannot be dismissed, but they also stated that self-esteem is developed and heavily influenced by the biological growth of the child. Considering the status of the nature versus nurture debate in general, this middle position appears to be the most representative of current thought.

History of Self-concept Theories:
From Maslow to Harter

In the past, self-esteem was viewed as being an individual's level of satisfaction with him- or herself. This conceptualization first became popular among social scientists during the 1940s, and although the definition has altered slightly (see above), it has continued to be an important area for research since that time. One early theorist, Abraham Maslow (1943), postulated that self-esteem was one of the six hierarchical needs universal to humanity. According to his theory, individuals must have a positive, realistic self-concept in order to move to the highest level of psychoemotional attainment. Although Maslow's model is not necessarily a developmental one, clearly he believed the positive self-concept which all people have the potential to achieve is based upon the early experiences of childhood (Crain, 1985).

The prevailing models up until the 1980s were unidimensional in nature. Coopersmith's (1967) model best represents this tradition. Coopersmith's unidimensional construct deals with self-evaluations across items tapping a range of content. Each of these content areas is given equal weight, and it is assumed that these reflect an individual's sense of self across the other areas of his or her life.

Researchers have since argued that the unidimensional approach masks important evaluative distinctions that individuals place on their competence in different domains of their life (Rosenberg, 1979). One recent theorist who has developed a more complex and seemingly accurate approach to self-concept is Susan Harter (Harter & Pike, 1984). Harter's model of self-concept, which she terms global self-worth, uses both a multidimensional and unidimensional construct of the total self, and represents an integration of both unidimensional and multidimensional themes. The model underscores the importance of global judgments of esteem or self-worth, in addition to the evaluation of domain specific competencies. Harter's influential theory also states that the self-concept of a young child has four different components: cognitive competence, physical competence, acceptance by peers, and acceptance from parents. As Harter's model of child self-concept provided the basis for the present study, the four aspects of this model are reviewed later in greater detail. First, however, factors related to young children's self-concept are discussed.

Factors Associated with Child Self-Concept

To understand how children come to have positive (or negative) self-concepts, it is important to first consider the psychosocial and cognitive factors affecting their development. Very early in life, children tend to think of themselves and others in general, concrete terms (Werner, 1926). They find it difficult to think about more than one aspect of experience at a time, and they tend to believe that others are experiencing the same things that they are. They are closely tied to immediate, concrete experiences (Piaget & Szeminska, 1941). During the preschool years, however, children begin a process of differentiation as they separate their thoughts about themselves from their thoughts about others.

These developmental processes gradually change the ways children come to view themselves. Most preschoolers think of themselves as competent in physical and intellectual areas (Harter & Pike, 1983). This is very different from children older than 8, who, for example, make clear distinctions between domain of competence, asserting that they are rather good in intellectual skills but poor in athletic ones. Theory and empirical findings have led to the conclusion that a child is not capable of making judgment about his or her worth as a person until approximately age 8. The very concept of "personness" is not yet firmly established among younger children (Harter &

& Pike, 1984). Ruble (1983) noted that although children as young as preschool age engage in forms of social comparison, children do not begin to make use of information obtained from these comparisons to evaluate themselves until the age of 7 or 8.

Because the observational and experiential components of young children's early self-concept are so important, adults in the life of a child play a crucial role in the development of the child's sense of self-worth (Honig, 1991). Children continually gather more and more information about their value as a person through interaction with the significant people in their lives (Swayze, 1980). Adults serve as mirrors through which children see themselves and then judge what they see. If the reflection is positive, children will make positive evaluations of themselves. If the image is contrastive or negative, children will deduce that they have little worth (Maccoby, 1980).

Because children are very sensitive to the opinions of the surrounding adults, parents of young children have a particularly profound effect on the development of a child's healthy self-concept. Authoritarian parents have a style of parenting that is high in control, low in clarity of communication, high in maturity demands, and most often low in nurturance. Not surprisingly, research has found that the authoritarian style of parenting tends to be correlated with lower self-esteem in children (Coopersmith, 1967). Warmth and acceptance play a big part in the parenting of self-assured children (MacDonald, 1992). Children who find little predictability and warmth in their interactions with the world often lack confidence and self-concept. One study (Denham, Renwick, & Holt, 1991) investigated 48 preschoolers and their mothers in interactive situations. These situations included four challenging play/teaching tasks. The maternal ratings included supportive, limit setting, and allowance of autonomy. It was found that parents who allow their child developmentally appropriate autonomy have children with a higher sense of independence and self-esteem (Denham et al., 1991). Healthy self-concept is more likely to be developed when children are engaged in activities for which they can make real decisions and contributions (Katz, 1993).

Self-Concept and the Child with Disabilities

Although there has been a great deal of research dealing with issues of children's self-concepts, preschool-aged children with developmental disabilities comprise a population for whom this issue seems especially relevant. What research has been done with children who have moderate to severe disabilities has raised important questions and contradictions that need to be addressed (Chapman, 1988; Coleman, 1985). For example, some researchers have found that children with learning disabilities often have negative perceptions of themselves (Prout, Marcal, & Marcal, 1992). Others, however, have found that self-concepts among children with disabilities are just as high as children without disabilities (Coleman & Minnett, 1993). It is unfortunate that such contradictions have not been investigated further. Clearly, additional research is needed in the area to resolve these apparent contradictions (Peters & Raupp, 1980).

Because self-concept can be viewed as the level of satisfaction with oneself, children with disabilities, who may not necessarily report having low self-concept, may nevertheless experience greater stress in their development of an accurate self-image (Juhasz, 1979). A study undertaken by Reddy, Ramamurti, and Reddy (1991) investigated the prevalence and sources of stress experienced by girls and boys with disabilities. The Stress Inventory for Disabled Children was administered on two occasions. There was little difference between the two performances, so it was accepted as reliable. They found that boys and girls with disabilities reported more stress in the areas of self-concept and social, emotional, and school activities than in areas of health, language, motor, and cognitive activities. Boys experienced greater stress than girls in self-concept, language, personality, and emotional activities.

Children's knowledge of their disability can also be a determining factor in their acceptance of their limitations. Dunn, McCartan, and Fuqua (1988) interviewed 30 children of different ages with spina bifida, cerebral palsy, or limb amputation to ascertain the extent of their awareness of their disability. They found that the child's knowledge of the disability is most significantly correlated with the child's age. They also found that the occurrence of discussion at home, but not at school, was significantly correlated with awareness. Thus, Dunn and his colleagues concluded that when children with disabilities are aware of their disabilities and limitations, they realize that they are different and are more accepting of themselves. The authors therefore implied that it is important that children with disabilities be informed and educated about their disabilities at a young age.

Cognitive-developmental level plays a major role in the influencing of the structure of the self-concept among children with disabilities. Harter and Silon (1985) indicated that child self-concept is a function of cognitive ability, because it was related to IQ, and because its structure was related more highly to mental age than to chronological age. These same researchers also found that children between the ages of 9 and 14 who had mental ages of less than eight were not able to make accurate judgments concerning their self-worth. They were able, though, to differentiate general competence and social acceptance. A mental disability, therefore, affects learning effectiveness of children and reduces the rate of self-concept formation (Lawrence, 1991).

Mainstreaming and integration, sometimes referred to as inclusion, have become popular subjects among researchers who deal with children with disabilities. The effect of mainstreaming on the self-esteem of a child with disabilities has been debated in the literature (Smith, Dokecki, & Davis, 1977). Smith and colleagues stated that full-day mainstreaming can be a seriously detrimental to the self-esteem of the student with disabilities because of lack of choice of a comparison group. He also stated that half-day mainstreaming is more beneficial because children have two groups to utilize in self-concept comparisons, and the students with disabilities can choose which group they want to compare themselves with.

Researchers have also noted the importance of children with disabilities having a comparison group that is similar to themselves. Xie (1990) found that children with disabilities that were integrated into a normal class were most unhappy when interacting with children who were not disabled. Moreover, children with disabilities in an isolated environment had a greater sense of success and believed that they would live happily. Harter and Silon (1985) found that mainstreamed children with mental disabilities compared themselves with other mainstreamed children with disabilities rather than with children without disabilities. They also found that self-contained children with disabilities used other self-contained pupils as their comparison. However, Harter and Silon (1985) found no difference in the children's perceived competence between mainstreamed and self-contained children. A final study found that children with disabilities in an integrated class had lower self-perception of scholastic competence, but there were no differences in global self-worth (Clever, Bear, & Juvonen, 1992).

Another area of concern which may influence the self-concept of children with disabilities is associated with their parents' view of their condition (Stanzler, 1982). Because parents often develop expectations of what their child will be like prior to the child's birth, some discrepancy between the expectations and the child's condition may always exist, but the greater and more apparent the discrepancy, the more likely parents are to feel confused, resentful, or simply apathetic (Stanzler, 1982). Such feelings may be accompanied by withdrawal from the child or aggressiveness toward him or her, even if the disability manifests itself well after birth. Pagelow (1984) stated that children who are chronically ill are more at risk of being abused, because of the constant demands and the associated stress that they put upon the parents.

In the same vein, many social constructivists believe that children's self-concept is primarily determined by the way in which they are treated by others (Maccoby, 1980). In one study, researchers (Jahoda, Markova, & Cattermole, 1988) interviewed 12 individuals who were mildly retarded. All of the subjects were aware of the stigma (they knew that to be regarded as a "handicapped" person often resulted in being treated as someone who did not deserve parity with non-handicapped people) attached to them. Only a few perceived themselves as essentially different from their non-disabled peers. Oppositely, the majority of the mothers of the subjects did view their children as being essentially different from people that do not have disabilities. Therefore the persons with disabilities did not appear to learn their self-concept from their mothers. Thus, these findings did not support the claim made by the social constructivists that people's self-concepts are primarily determined by the ways in which they are treated by significant others.

Research in the area of self-concept among children with disabilities has shown that those with the more severe conditions of cystic fibrosis and myelomeningocele have significantly lower self-esteem than children without these disabilities (Lindstrom & Kohler, 1991). Likewise, Harvey and Greenway (1984) found that children with spina bifida and cerebral palsy held themselves in lower regard than those children with limb or bowel deformities (less impeding conditions). Chiu (1990) administered a self-concept inventory to 450 elementary school students identified as gifted, normal, and disabled. The results indicated that both the gifted and normal children had significantly higher self-concept than did the disabled children. However, it should be noted that there are many important issues related to self-concept, such as parental levels of resources and social support, and family changes that occur, that researchers have not yet investigated with children with moderate to severe developmental disabilities (Minnes, 1989).

In summary, researchers in the field of child development have emphasized the salience of self-concept in various aspects of emotional and social attainment in children with and without disabilities, although the majority of research has focused on the latter. Tabular summaries of the studies that were included in this literature review are found on Tables 1 through 4.

Harter's Model of Self-Concept

As Harter's (Harter & Pike, 1984) model of self-concept was adhered to in the present study, the four aspects of this model (cognitive competence, physical competence, peer acceptance, and maternal acceptance) are here reviewed in greater detail.

Table 1

Summary of Studies Related to Cognitive Competence Cited in the Literature Review

Author(s), Year	*N*	Age (years)	Groups Compared	Disability	Conclusions
Casey, Levy, Brown, & Brooks, 1992	67	9-10	Control vs disabled	reading, physical	Children with reading disabilities are more anxious, less happy, and consider themselves less competent.
Chiu, 1990	450	10-11	a-gifted b-normal c-mentally disabled	mental	Gifted and normal children had significantly higher esteem than children with disabilities.
Gresham, Evans, & Elliott, 1988	336	9-11	a-mainstreamed disabled b-normal peers	mental	Mainstreamed children with disabilities reported lower academic and social self-efficacy than normal children
Clever, Bear, & Juvonen, 1992	184	10	a-learning disabled b-low achievement c-normal achievement	learning	No differences between the groups on global self-worth. Children with learning disabilities and low achievement had larger discrepancies between perceived competence and importance of school.
Harter & Silon, 1985	126	9-12	a-self-contained b-mainstreamed for socialization c-mainstreamed for academics	mental	No difference on self-evaluations between mainstreamed and self-contained children.
Smith, Dokecki, & Davis, 1977	206	6-10	a-full mainstreamed b-half mainstreamed	mental	Lack of choice of comparison group can be detrimental to children with disabilities. Mainstreamed children with disabilities had lower self-concepts.

Cognitive competence. Children ages three to seven typically spend a portion of their day in preschool or a school environment (Page & Page, 1993). It is not surprising, then, that the ways in which they perceive their successes and failures in school have a profound impact upon their perceptions of themselves as a whole. Children who

Table 2

Summary of Studies Related to Physical Competence Cited in the Literature Review

Author(s), Year	N	Age (years)	Groups Compared	Disability	Conclusions
Martinek & Karper, 1982	136	5-8	disabled vs control	various	Non-disabled performed better on balance and gross movement than disabled. Disabled had lower self-esteem.
Roswal, Frith, & Dunleavy, 1984	32	5-13	disabled vs control	mental	Children with developmental disabilities had lower self esteem than control group, which correlated with motor ability.
Warger & Kleman, 1986	82	6-10	a-institutionalized disabled b-institutionalized non-disabled c-noninstitutionalized disabled d-noninstitutionalized non-disabled	behavioral disorders	Creative movement improved self-esteem of children with disabilities in institutions.

Table 3

Summary of Studies Related to Peer Acceptance Cited in the Literature Review

Author(s), Year	N	Age (years)	Groups Compared	Disability	Conclusions
Harvey & Greenway, 1984	51	7-15	a-special school b-normal school c- control group	cerebral palsy spina bifida, and others	Physical disability is associated with adverse effects on self-esteem of the child and the sibling.
Kazak & Clark, 1986	108	1-13	disabled vs control	spina bifida	Children with disabilities siblings' self-esteem were not effected by their sibling's condition.
King, Rosenbaum, Armstrong, & Milner, 1989	1819	9-11	normal children	N/A	Children were more accepting of other children with disabilities if they associated with them.
Resnick & Hutton, 1987	60	12-22	control vs disabled	cerebral palsy	Self-perception of disability and peer comparison strongly related to poor self-image.

Table 4

Summary of Studies Related to Maternal Acceptance Cited in the Literature Review

Author(s), Year	N	Age (years)	Groups Compared	Disability	Conclusions
Casey, Levy, Brown, & Brooks, 1992	67	9-10	control vs disabled	mental	Parents rated their children with disabilities less competent on all measures of the Harter.
Felson & Zielinski, 1989	338	10-13	control vs experimental	none	Mother's self-esteem effects the self-esteem of the child with disabilities.
Innocenti, Huh, & Boyce, 1991	725	birth to 6	a-parents with children with disabilities b-parents with normal children	various	Stress experienced by family of disabled can be qualitatively different than families with a normal developed child
Rimmerman, 1991	86	12	control vs disabled	mental	Perceived social support was a buffer for mothers with children with disabilities.
Varni & Setoquchi, 1993	54	10	control vs disabled	limb deficiencies	Higher parental depression predicts higher child depression and anxiety. Family support positive effect on child's adaption.
Virtanen & Moilanen, 1991	72	6-9	a-mothers of disabled b-mothers of non-disabled	neurological	Mothers with better adaption skills and stronger social support had higher self-esteem than other mothers of children with disabilities.

are not part of the regular classroom environment, therefore, face the additional obstacle of being separated and singled out. They may internalize the stigma of being socially excluded due to lower academic functioning. Although the practice of mainstreaming (most recently termed "inclusion") has allowed for greater social interaction among children with and without disabilities, it has not been established that this practice improves the self-concept of children with disabilities (Ohanian, 1990).

In a study conducted by Gresham and colleagues (1988), children were assessed on their self-efficacy beliefs. It was reported that mainstreamed, mildly disabled children reported lower academic and social self-efficacy than did the normal and gifted peers. Surprisingly, gifted children reported a lower social self-efficacy than did the children with disabilities. In a related study, Casey, Levy, Brown, and Brooks (1992) administered the Harter Self-Perception Test to 29 children with mild disabilities and found that the children with disabilities were more anxious and less happy than normally developing children. These subjects also considered themselves to be less competent in the school environment.

Physical competence. According to Montessori (1946), "a child's play is his work" (p.6). Because "child's play" typically involves a high level of motor activity, it has been inferred from this statement that physical competence is a very important aspect of emotional wellness in children (Crain, 1985). Activities involving physical play with other young children can contribute to fostering a positive and healthy self-concept. Jensen (1980), for example, has found that play can serve an important function in the development of young children's self-concept: In play they clarify their own sense of self and their understanding of the values salient in their culture. Play allows a child to re-create, elaborate, and experiment with various images, roles, and events.

These issues are especially relevant for children with disabilities, whose physical and mental limitations may hamper their ability to play with other children in a typical fashion. In a study that compared children with and without disabilities on self-concept and motor performances, Martinek and Karper (1982) described the differences in self-concept and motor performances between 28 children with emotional disorders, hyperactivity, or seizure-disorders and 108 children without impairing conditions. Each physical education class that was observed had 10-12 students, of whom 3 or 4 were identified as children with disabilities. It was found that children without disabilities performed significantly better on dynamic balance and gross lateral movement and that the children with disabilities had lower self-concepts, which were related to their physical awkwardness.

Applying this concept to treatment, researchers have indicated a tendency toward improved self-concept through participation in a developmental play program. One study using a developmental play program found that prior to the developmental play program, children with a developmental disability demonstrated lower self-concepts than a control group of children without disabilities, which correlated highly with their motor abilities (Roswal, Frith, & Dunleavy, 1984). However, these same researchers also found that by increasing play activities with these children, their motor skills and their risk-taking abilities significantly increased, leading to an increase in their self-concept.

Similarly, Susan O'Doherty (1989) found that play was a very useful form of therapy for children with disabilities, and Warger and Kleman (1986) have found that a creative dramatic program improved the self-esteem of institutionalized children and that their rates of improvement were higher than for noninstitutionalized children.

Acceptance by peers. Peers play an important role in a child's self-concept and self-acceptance. One study (King, Rosenbaum, Armstrong, & Milner, 1989) has found that children ages 9 to 11 who were exposed to children with disabilities were more accepting of their differences than are children who had not associated with children with disabilities. They also found that females in the same age group (9-11) were more accepting of children with disabilities than were males (King et al., 1989).

Resnick and Hutton (1987) conducted a study focusing on social and psychological factors associated with positive self-concept and resiliency using 60 subjects with cerebral palsy. They found that the subjects' self-perception of the disability and the negative comparison with peers were more strongly related to poor self-image than the physical severity of the disability itself. They also found that increased exposure to normal daily activities and social interaction was fundamental in the promotion of healthy self-concept.

Another aspect of peer relations is sibling interactions. Although not commonly recognized as such, brothers and sisters form the closest peer group with whom children with disabilities associate (Lobato, 1990). Siblings may also be affected by the disability in some way or another, but researchers differ in their opinions as to how much they are affected. For example, Lobato (1987) examined psychosocial characteristics of 24 siblings of children with disabilities in relation to a control group of children without disabilities and found that there were no statistically significant differences between groups on measures of perceived self-competence and acceptance, understanding of developmental disabilities, empathy, and child care responsibility. Similarly, Kazak and Clark (1986) found that siblings' self-concepts were not affected by their sister or brother's condition. However, Harvey and Greenway (1984) reported that the presence of a congenital physical disability is associated with adverse effects on the self-concept of both the affected child and the sibling nearest in age, although the degree of impairment in self-concept for the affected child is substantially greater than that of the sibling.

Maternal (familial) acceptance. Much of the research that has been done in the field with developmentally delayed children has dealt with the relationship that exists between the mother (or primary caregiver) and the child. For example, Blum (1992) found that overprotection by primary caregivers can lead to lowered self-esteem and increased anxiety in children with a developmental disability. Nevertheless, he also stated that appropriate family support is an essential part of insuring the successful autonomy of the child. In Casey et al.'s (1992) research, 29 parents, who were well informed about the disabilities of their children, and their children with disabilities completed the Harter Self-Perception Profile. The children were more anxious and less happy then were the control group of children without disabilities. The parents rated their children with disabilities as being less competent than non-disabled children on all measures of self-concept (Casey et al., 1992).

Similarly, Varni and Setoquchi (1993) have studied the effects of parental adjustment to the adoption of children with congenital or acquired limb deficiencies. They investigated how well parental acceptance and emotional condition predicted depression, anxiety, and self-concept in 54 children with limb deficiencies. The researchers found that higher paternal depression predicted higher child depression and anxiety. Higher paternal anxiety predicted higher child depression and anxiety and lower self-concept. Maternal depression and anxiety did not predict child psychological adaptation, but family support did have a positive effect on child adaptation.

It is interesting to note that the self-concept of the parent may also be affected by the child's disability. A study dealing with the relations of stress and coping over time among 36 mothers of children with neurological disabilities found that mothers who had better adaptation outcomes and stronger social support groups considered their self-concept higher than other mothers of children with disabilities (Virtanen & Moilanen, 1991). If a mother's self-esteem is higher, she is better able to cope with the demands of a child with disabilities, thus giving the child the support that is needed to develop a healthy self-esteem (Felson & Zielinski, 1989). A similar study with 24 mothers of children with severe disabilities found that the mother's locus of control and perception of social support (belonging, appraisal, tangible support, and self-concept) served as buffers against parental pessimism concerning their severely disable children (Rimmerman, 1991).

Research has also demonstrated that stress experienced by a parent with a child with a disability can be qualitatively different than that of families where children develop normally (Innocenti, Huh, & Boyce, 1991). Other researchers have demonstrated that families of children with disabilities have higher levels of stress than do families of children without disabilities. These families with children with disabilities differ only minimally from other families in family functioning (Dyson, 1991).

Nevertheless, researchers (i.e., Vincent & Salisbury, 1988) have noted that changes in family dynamics (stability and separation) over time are associated with high stressors which may lead to childhood symptoms of withdrawal, depression, and lack of self-concept. Many measures have been developed to study such family situational variables and their relationships with children with disabilities. For example, evidence of reliability and validity for two family data questionnaires, the Family Support Scale (FSS) and the Family Resource Scale (FRS), was recently provided in a study conducted by Taylor (1994). In his study, the FSS and FRS demonstrated higher internal consistency reliability than reported by the original authors. In addition, confirmatory factor analysis (structural equation modeling [SEM]) provided evidence of construct validity. Of note is the fact that Taylor used a large sample of children with or at-risk for developmental disabilities. His research also suggested that the effects of family resources and social support are important variables to consider in research dealing with children with disabilities.

Demographic Correlates of Self-Concept

As with most social phenomena, several demographic variables have been found to be related to children's self-concept. For example, when socioeconomic class was examined in relation to the self-concept of children with mild disabilities, Coleman (1985) found that children from high socioeconomic status (SES) levels had lower self-concept scores than children from low SES levels. He interpreted these contraintuitive results in terms of the influence of social comparison groups on children's perceptions of their own competence. He suggested that the results indicate that children with mild disabilities from high SES levels who remain academically inadequate (in comparison to their upper-class peers) have self-concepts significantly lower than those of all other students. In other words, the disparity of the abilities of a high SES child with disabilities from his or her peers is greater than for a lower SES child. They speculate that it is this difference that correlates with lowered self-concept.

Summary

Based on this review of the extant scientific literature, there are several key issues which should be reemphasized here. First, the importance of conducting self-concept research with children who have or who are at-risk for developing disabilities has been widely cited (e.g., Morvitz & Motto, 1992; Vaughn et al., 1992). Second, the few studies which have examined the self-concepts of children with disabilities have produced conflicting evidence as to how the level of disability affects the most commonly measured aspects of child self-concept: maternal acceptance, peer acceptance, physical competency, and cognitive competency. Finally, family situational variables (including recent major life events, level of social support, and family resources) and family demographic factors have been found to influence the development of self-concept in young children with and without disabilities, but no studies have been located which examined these groups of variables concurrently.

PURPOSE AND OBJECTIVES

The purpose of this research was to examine the relationship of the self-concepts of children with developmental disabilities with demographic variables and measures of child functioning and family situational variables. In addition, their responses on a measure of self-concept (Harter & Pike, 1984) were compared with those of the normative data provided by its author. Specifically, the following four objectives guided the research. That they may be tested, they are also rewritten here in the form of hypotheses.

Objective one was to determine on what dimensions young children with disabilities differ from the normative sample used in developing Harter and Pike's (1984) measure of self-concept.

Hypothesis one was that young children with disabilities will report having less positive self-concepts than the normative sample of children without disabilities as measured by the constructs in The Pictoral Scale of Perceived Competence and Social Acceptance for Young Children (Harter & Pike, 1983).

Objective two was to determine the relationship between the levels of child cognitive and adaptive behavior, as measured by the Woodcock-Johnson Test of Achievement--Revised (Woodcock & Johnson, 1989), and the Scales of

Independent Behavior (Bruininks, Woodcock, Weatherman, & Hill, 1985) and self-concept, as measured by the PSPC.

Hypothesis two stated that children with average or higher academic and adaptive behavioral skills will report having higher self-concepts than will children with lower average academic and adaptive behavioral abilities.

Objective three was to identify the relationship between child self-concept as measured by the PSPC and the demographic variables of (a) child's age, (b) gender of the child, (c) mother's education, (d) mother's age, (e) annual income of the family, and (f) father's education.

Hypothesis three was that demographic variables will correlate with child self-concept but that they will explain only a small proportion of the variance in scores on Harter's measure of self-concept (PSPC).

Objective four was to verify the relationship between the four aspects of child self-concept reviewed previously (i.e., Harter & Pike, 1984) and the family situational variables of (a) family stressful life events, as measured by the Major Life Events Scale (Holmes & Rahe, 1967), (b) family resources, as measured by the Family Resource Scale (Dunst & Leet, 1985), and (c) family social support, as measured by the Family Support Scale (Dunst, Jenkins, & Trivette, 1984).

Hypothesis four said that family situational variables will not correlate with child self-concept (PSPC), and they will explain very little of the variance in self-concept scores.

Previous researchers investigating these objectives either have not included children with disabilities in their samples or have not published their work.

METHOD

Sample

An extant data set, provided through the Early Intervention Research Institute (EIRI) of Utah State University, was used in the present study. It contains the records of relevant test scores from 248 children participating in six research sites who had moderate to severe disabilities. Of these, 31% had experienced neonatal intraventricular hemorrhage (IVH), 18% had cognitive disabilities, 17% had developmental delays, 10% had language disorders, 6% had Down Syndrome, 5% had cerebral palsy (CP), and the remaining 11% had other motor or health impairments. As the children developed, the diagnostic category to which they were assigned may have changed. For example, some children who had experienced IVH were later diagnosed as having CP. Due to the severity of their disabilities, 27 of the children could not complete the study, so these children whose PSPC protocols were marked by the diagnostic clinician as problematic (i.e., the child did not understand the task involved) were removed from the study.

The children came from predominantly lower middle-class, Caucasian families (86%) residing in Utah (53%), Iowa (26%), South Carolina (12%), and Illinois (9%); all were recruited by EIRI from 1985 to 1989. The sample consisted of 141 male and 107 female children, who had an average age of 93 months (7.8 years) at the time of the assessment reported here. For a summary of other demographic characteristics, see Table 5. Table 6 contains the distribution of children across sites.

Table 5

Demographic Variables

Variable	$\bar{x}$	Range	SD
Annual Income (US$)	23,700	5,000-70,000	13,400
Two-parent Families (N)	184		
Mothers Employed (N)	86		
Mother's Education (years)	13.1	7-17	2.0
Father's Education (years)	13.5	8-17	2.5
Mother's Hrs. Outside Home[a]	25.0	0-64	14.7
Father's Hrs. Outside Home[a]	44.6	0-84	11.8
Mother's Age (years)	34.3	23-59	5.7
Child's Age (months)	93.4	66-132	17.9
Child's Cognitive Age Equivalent[b] (months)	69.0	24-131	21.0

[a] Computed for those parents who were employed. [b] The total Skills age equivalent score on the Woodcock-Johnson.

Table 6

Sample Distribution Across the Six Research Sites

Site and Location	N	% of sample	Mean Age (months)	Age Range (months)	Cognitive Age Equivalent[a] (months)
Parent Involvement Sites					
DDI; Salt Lake City, UT	42	16.9	109.3	90 - 128	60.3
Des Moines; Des Moines, IA	65	26.2	112.5	95 - 132	78.7
Level of Intensity Sites					
Jordan; Salt Lake City, UT	45	18.1	80.1	66 - 92	62.9
SMA; Flossmoor, IL	21	8.5	85.6	76 - 99	72.5
Age of Intervention Sites					
Salt Lake IVH; Salt Lake, UT	45	18.1	78.4	77 - 80	69.3
S. Carolina; Charleston, SC	30	12.1	75.6	74 - 78	68.1

[a] Woodcock-Johnson age equivalent total Skills score.

Because these data were derived from a larger longitudinal study, each of the child participants received some form of intervention, depending upon their particular placement. The EIRI study was originally designed to examine differential effects associated with either the intensity of the intervention, the age at which intervention began, or parental involvement in the intervention process. Each year parents were queried as to the time spent in intervention other than the primary context being examined as part of the treatment verification processes. These procedures allowed the tracking of additional interventions received. For example, an additional form of intervention would be sessions with a private tutor. The findings revealed that participation in the additional services was generally limited.

At each site, participants were randomly assigned to one of two differing types of intervention. Each child had an equal chance of being assigned to either of the intervention groups, and the parents or service providers could not influence the group assignment. This random assignment contributed to the internal validity of the original study conducted through EIRI.

Sites that were involved with the level of intensity of the intervention were the Jordan District (Utah) and the SMA-South Metropolitan Association, Lake McHenry (Illinois) sites. At the Jordan site, preschool children with disabilities were divided into two preschool classroom settings. These consisted of a 3-day per week center-based preschool program and a 5-day per week center-based preschool. At the SMA site, young children with disabilities (approximate age ranged from 4 to 30 months with a mean of 12 months) were either involved in a 1-hour per week session of intervention or a three times a week 1-hour intervention program.

The sites which recruited medically fragile infants (specifically, those with intraventricular hemorrhage [IVH]) and which varied the age at which the intervention was first initiated were South Carolina and Salt Lake City (Utah). At the South Carolina site the infants were randomly assigned to begin services at either 3 months or 12 months (age adjusted for prematurity). At the Salt Lake City site, two groups were randomly assigned to either begin services at the adjusted age of 3 months or 18 months. (In working with children who are preterm, the adjusted age is the gestational age for the child.) The children who were in the earlier intervention programs at both sites were given primarily sensimotor intervention throughout the first phase of the study. The second phase of the study involved both groups of children receiving intervention in the areas of language, motor skills, self-help, and emotional skills.

The last of the sites consisted of Des Moines (Iowa) and DDI (Salt Lake City, Utah), which were concerned with the effect of parental involvement on the development of children with disabilities. In both sites, the children were randomly assigned to either a center-based intervention plus parent involvement or a center-based intervention only program. The children in both sites were of preschool age (3 to 5 years) at the time of intervention. The parent involvement program that was used in both studies was the Parent Involvement in Education (PIE). This program had a parent-as-therapist focus, but it also included information and support components.

Because of the diverse interventions which were administered to children in the combined data set (as described above), it is important to consider the potential impact that these interventions had upon the children. If groups which received the more intense (or earlier, etc.) intervention received greater benefits from the intervention, then the results presented here could be confounded by the effects of the intervention. Thus, an extensive preliminary examination of the data set was conducted.

First, t tests for independent means were conducted between the two intervention groups (more vs less) for the entire sample. The results indicated that there were no statistically significant differences between the two groups on any of the dependent measures used here (PSPC, WJ-R, and SIB). When similar analyses were conducted separately for each of the three types of intervention (intensity, age-at-start, and parent involvement), the results also revealed no statistically significant differences between the treatment groups. Finally, between-group analyses were conducted for each of the six sites separately. Again, no statistically significant differences existed between groups on any of the dependent measures. Overall, the results of the analyses confirm what has been previously reported by the directors of the EIRI data set: Differential forms of intervention had little, if any, impact upon measures of child development (White & Boyce, 1993). Given these findings, it is highly unlikely that the outcome of the present study was unduly affected by differences across treatment groups.

Additional rationales exist to support this claim, which is central to the validity of the present research. First, assessment of self-concept occurred several years after the interventions had been administered. At one site (Jordan), the assessments conducted for the purposes of the present study were conducted 2 years following the intervention; all other sites were assessed either 5 or 6 years after intervention had been completed. Thus, even if the intervention did have some effect upon self-concept (although it was shown above that it did not), it is improbable that it endured across such a lengthy time span.

Second, children with disabilities are often exposed to intervention programs, because such are presently mandated by law. However, in most studies, data regarding the type, duration, or the effectiveness of these programs are not available. Thus, the fact that it was systematically documented in the data set used here is of great benefit to the present study. It is much better from an empirical perspective to have extensive data for verification than to not consider the potential impact of previous and current treatment programs. These two issues, coupled with the above analyses, indicate that the data used here are suitable for conducting additional analyses.

Design

The study was primarily correlational, although group comparisons with the data collected in this study and the normative data provided by the author of the self-concept measure used (Harter & Pike, 1984) were also performed (post hoc). Specifically, data derived from the six sites described previously (three in the Salt Lake City, Utah area, one in Des Moines, Iowa, one in Charleston, South Carolina, and one in Flossmoor, Illinois) of the Early Intervention Research Institute (EIRI) were combined and subjected to statistical analyses.

Statistical analyses using this data set had not been performed previously with the specific variables in question. Thus, the contribution provided from the present study is unique to the field.

Studies at five of the sites (South Carolina, Salt Lake IVH, SMA, DDI, & Des Moines) were initiated at or near the beginning of the research institute in 1985 or 1986; data on demographic variables, measures of child functioning, and questionnaires of family situations were collected at that time. Each year, following this initial data collection, all measures were again readministered (as described in the Instrumentation and Procedure section below). Five or 6 years after this first administration, depending upon the site, the measure of child self-concept used in this present study was first administered to the children at these sites.

Research conducted at the Jordan site began in 1988, 2 years after the other sites had begun. As above, measures of family situation variables, child functioning, and demographic variables were collected each year following the onset of the study. With this site, however, the measure of child self-concept used in the present study was administered for the first time 3 years following the onset of the study. Thus, data used in the present examination of child self-concept were combined across three sites which administered the appropriate measure (Harter & Pike, 1984) in their 6th year, two sites which administered it in their 5th year, and one site which administered it in its 3rd year.

Instrumentation and Procedure

The primary measure for this study was the Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (PSPC) (Harter & Pike, 1983; 1984) (see Appendix A). The scale was designed for children of preschool-kindergarten or 1st and 2nd grade age. The scale is individually administered, with the picture plates which are shown to the children being representative of four subscales: cognitive competence, physical competence, peer acceptance, and maternal acceptance. Each subscale contains six items (picture plates). Each item is scored on a four-point scale, where a score of four would be the most competent or accepted and a score of one would be the least competent or accepted. The administration procedure was as follows: The child was read a brief statement about a child of the same sex depicted in a picture; for example, this child is good at doing puzzles and this child is not very good. He (she) was first asked to pick the child who is most like him (her), and then to indicate, by pointing to either a large or small circle, if the child is very much like him (her) or by pointing to a smaller circle if the picture is just a little like him (her). The child who indicated that he (she) is very much like the one who is good at puzzles received a score of four for this item. If the child chose the smaller circle on the same picture, he or she received a score of three. If the child indicated that he (she) is like the boy or girl who is not very good at puzzles, he or she received a score of two, and if he (she) said that he or she is very much like that boy (girl) he (she) received a score of one.

Factor analysis has provided evidence of construct validity for the scale, and its compilation was conducted to ensure appropriate face validity. Subscale reliabilities (Chronbach alpha's) range from .50 to .85, and the overall reliability coefficients for the scale range from .75 to .89, indicating moderate reliability comparable to other scales of its nature (Harter & Pike, 1983). Normative data for each scale are provided in the test manual. In this study, the preschool-kindergarten form was used, because the 1st- and 2nd-grade age form was intended for children who had been formally instructed in reading and writing. The decision was made to administer the preschool-kindergarten form because it was deemed more developmentally appropriate for a majority of the subjects. The PSPC was administered by trained experimenters, who were blind to the purpose of the study. The PSPC was given to South Carolina, Salt Lake IVH, and SMA sites at posttest six. DDI and Des Moines sites were administered the PSPC at posttest five and the Jordan site was given it at posttest three. The test was administered in a familiar setting for the child, either in the home or in the school setting.

To compare the level of child acceptance and competence with aspects of the child's actual cognitive and social functioning, and family situational functioning, such measures as SIB, WJ-R, Major Life Events, Family Support, and Family Resources Scales were used. The child measures and family situation measures which were used in the present study are highlighted in Table 7 and are described in detail below.

The Woodcock-Johnson Achievement Test - Revised (WJ-R) (Woodcock & Johnson, 1989) is a multifactorial test designed to measure the school aptitude and achievement of children and adults (see Appendix B). The WJ-R is an individually administered test, which provides age-equivalent, grade-equivalent, and standard scores in the areas of reading, mathematics, broad knowledge, and broad skills. It was standardized on a national sample of 6,359 subjects, aged 2 to 95 years, who were carefully selected from over 100 communities to match the U.S. census. It has been found to be very reliable, with coefficients in the high 90s for clusters, and it has strong psychometric evidence of concurrent, content, and construct validity. Correlations with other tests of achievement range from .60 to .70, and several exploratory and confirmatory factor analyses have replicated the intended structure. In summary, the strong

Table 7

Description of Measures Administered

MEASURES	DESCRIPTION
CHILD MEASURES	
Woodcock-Johnson Tests of Achievement -- Revised (WJ-R) (Woodcock & Johnson, 1989)	A norm-referenced test of achievement consisting of nine aspects of scholastic achievement: letter-word identification, passage comprehension, calculation, applied problems, dictation, writing samples, science, social studies, and humanities. They are totaled into two scores, broad knowledge and skills.
Scales of Independent Behavior (SIB) (Bruininks, Woodcock, Weatherman, & Hill, 1985)	A norm-referenced test that assesses functional independence and adaptive behavior. The test is organized into four subdomains: motor skills, social and communication skills, personal living skills, and community living skills. A total score is also provided.
FAMILY MEASURES	
Major Life Events (Holmes & Rahe, 1967)	Assesses parent stress resulting from major life events that occurred within the past year.
Family Resource Scale (FRS) (Dunst & Leet, 1985)	Assesses the extent to which different types of resources are perceived as adequate in households with young children. Factors include: General Resources, Time Availability, Physical Resources, and External Support.
Family Support Scale (FSS) (Dunst, Jenkins, & Trivette, 1984)	Assesses the availability of sources of support as well as the degree to which different sources of support provided are perceived as helpful to families rearing young children.

psychometric properties and the relative ease of administration and scoring have made the WJ-R one of the most widely used tests of early academic achievement.

In this study the WJ-R was given using six subscales of the WJ-R which constitutes the early development measure. Three of these, humanities, science & social science provide a broad knowledge score. The other three, letter-word identification, applied problems and dictation provide a skills knowledge score. The WJ-R was administered by trained examiners at the time of the post test to the children involved in the study. The test was given in the home or school setting of the child. The examiner asked questions regarding letter-word identification, applied problems, dictation, sciences, social studies and humanities to the child. The child then responded according to his or her ability. The test was scored according to standardized procedures outlined in the manual.

The Scales of Independent Behavior (SIB) (Bruininks et al., 1985) is an individually administered, norm-referenced measure of adaptive behavior (see Appendix C). It consists of 14 subscales which are grouped into four clusters: Motor Skills, Social Interaction and Communications Skills, Personal Living Skills, and Community Living Skills. The clusters can be combined to produce a total score of Broad Independence. The SIB is an administered standardized interview and is completed by a trained interviewer with one or both of the child's primary caregivers. Scores can be generated as age-equivalents, percentile ranks, and standard scores. Normative data came from a pool of over 1,700 subjects who were representative of the general population on sex, race, community size, and socioeconomic status. Coefficients of split-half and internal-consistency reliabilities have ranged from .64 to .95 on the four clusters, with the total score yielding coefficients of above .95 for every age group tested (Bruininks et al., 1985). Evidence of criterion and concurrent validity was provided for the SIB by comparing scores of individuals diagnosed as mentally retarded (which requires significant deficits in adaptive behavior) with scores from the AAMD Adaptive Behavior Scale (Bruininks et al., 1985). Construct validity was established through longitudinal age-increases in adaptive behavior. Moreover, special populations (deaf, blind, and mentally disabled) have shown patterns of scores appropriate to their disability. The SIB is a commonly used measure of adaptive behavior.

In this study, parents were interviewed using the SIB format. The interviews were conducted in the home or the school setting of the participant. These data were collected at the time of certain reassessments at each site.

The three following questionnaires were administered to the parents in one of two ways. They were either mailed to the parent and then collected at the time of the child's assessment, or the parent completed the questionnaires at the same time as the WJ-R assessment.

The Major Life Events Scale (Holmes & Rahe, 1967) is a self-report measure of family stressful life events (see Appendix D). Although little empirical evidence for the validity of this scale has been generated over the years, it is based on the well-established evidence that certain life-events (i.e., divorce, loss of employment) are highly associated with stress in a family. Life events are rated according to severity, with "death of spouse" being the highest value and "minor law violations" being the least.

The Family Resource Scale (FRS) (Dunst & Leet, 1985) is a self-report, norm-referenced test which measures the adequacy of resources available in a house with young children (see Appendix E). It was developed using principles of human ecology theory, family systems theory, and Maslow's hierarchy of needs. Estimates of test-retest reliability have ranged from .71 to .81, and coefficients of internal consistency have average between .85 and 92 (Dunst & Leet, 1985). Patterns of correlations between measures of parenting stress, maternal commitment to child, and child health and well-being and the FRS provide evidence of concurrent validity, and the factor structure of the FRS indicated that it was measuring dimensions of family resources and needs.

The reliability and validity of the FRS as well as the FSS discussed next were evident by a recent study involving approximately 1,000 families of children with disabilities (Taylor, 1994). The FRS and FSS demonstrated higher internal consistency and reliability than the original authors reported with their much smaller samples. Construct validity was also evidenced by confirmatory factor analyses.

The Family Support Scale (Dunst et al., 1984) is a self-report instrument which measures a parent's satisfaction with social support and helpfulness (see Appendix F), based on the empirically established finding that degree of social support mediates family well-being. The factor structure was representative of the several areas of support which a family may receive (spousal, social/organizational, parental/kinship, and professional). Reliability coefficients have been produced in the following ways: split-half (.75), internal consistency (.77), and test-retest (.71) (Dunst et al., 1984).

Permission to use all the above listed measures was obtained through the Early Intervention Research Institute, which was responsible for the collection of the data used in the present study. Written verification of this is provided in Appendix G.

RESULTS

Data collected on all measures were analyzed with respect to their central tendency and dispersion. Scores on all scales had sufficient variance to conduct inferential and correlational statistics, and the distribution of scores on all dependent measures approximated the normal curve, as noted by visual inspection. The following sections will present the results of the analyses conducted according to the four hypotheses detailed earlier. Correlational analyses using Pearson $\underline{R}$ correlation techniques were performed. Additionally, canonical correlations were utilized to maximize the relationship between the two constructs.

Disability and Self-Concept (Hypothesis 1)

It was hypothesized that young children with disabilities would report having less positive self-concepts than the normative sample of children without disabilities as reported by Harter and Pike (1984). The means and standard deviations of scores (averaged across the six items per scale) on the four subscales of the Pictorial Scale of Perceived Competence (PSPC) for the population of children with or at-risk for disabilities used here are presented in Table 8. Also included in Table 8 are the normative data provided by Harter and Pike (1984).

Table 8

Means and Standard Deviations of PSPC Scores for the Present Study and for the Normative Data Provided by Harter and Pike (1984)

	Present Study		Harter Study	
PSPC Subscale	Mean	SD	Mean	SD
Cognitive Competence	3.49	.44	3.50	.43
Physical Competence	3.24	.68	3.30	.46
Peer Acceptance	2.97	.74	2.90	.56
Maternal Acceptance	2.98	.70	3.00	.59

Contrary to the hypothesis, a *t* test for independent means conducted with these data found no statistically significant differences between the two populations on all four subscales ($p < .05$). Children with or at-risk for disabilities did not differ from children without disabilities in their reports of self-concept.

The Association of Child Functioning with Self-Concept (Hypothesis 2)

It was hypothesized that children with average or higher academic and adaptive behavioral skills would report having higher self-concepts than children with lower academic and adaptive behavioral abilities. Pearson product moment correlations between the four subscales of the PSPC and the two measures of child functioning (the Woodcock-Johnson Test of Achievement--Revised, WJ-R and the Scales of Independent Behavior, SIB) are presented in Table 9.

Overall, the direction of the correlations with the two competence scales was in the hypothesized direction. However, the correlations with the two acceptance scales were negative, contrary to the prediction of the above hypothesis. This finding also raises a question regarding the different natures of the competence and acceptance subscales. This supports the notion that there may be two distinct aspects of self-concept. The correlations between Cognitive Competence and the WJ-Broad Knowledge, WJ-Skills,

Table 9

<u>Bivariate Correlations Between the PSPC Subscales and the WJ-R and the SIB</u>

PSPC Subscale	WJ-R Broad Knowledge	WJ-R Skills	SIB Total
Cognitive Competence	.21*	.26*	.22*
Physical Competence	.17*	.28*	.42*
Peer Acceptance	-.14*	-.10	.01
Maternal Acceptance	-.15*	-.20*	-.14*

* $p < .05$

and SIB were all statistically significant, but the magnitude of these correlations was low. Between Physical Competence and all the child functioning measures the correlations were statistically significant; however, the magnitudes of these relationships were also low, with only the correlation between the SIB Total score and the Physical Competence PSPC subscale reaching a moderate level of magnitude. Peer Acceptance and the WJ-R Broad Knowledge were significantly correlated in a negative direction, but the WJ-R Skills score and SIB did not correlate significantly with the Peer acceptance domain. The Maternal Acceptance subscale was found to be significantly correlated with all the child functioning measures in a negative direction.

To examine the overall relationship between the constructs of child functioning and child self-concept, a canonical correlation was computed. The analysis yielded three canonical variates for the two sets of measures because the smaller set consisted of three dependent measures. The standardized canonical coefficients and canonical variable loadings produced in the analysis are presented in Table 10. However, because the third canonical correlation was quite low (.08), data regarding the third canonical variate are not reported.

All child functioning variables loaded highly on the first canonical variate, with the SIB Total score loading

Table 10

Canonical Correlation Data for Measures of Child Functioning and PSPC Subscales

Variable	First Variate Loading	Second Variate Loading
Self-Concept		
Cognitive Competence	-.23	-.07
Physical Competence	-.41	.12
Peer Acceptance	.02	.17
Maternal Acceptance	.17	.13
Child Functioning		
WJ-R Broad Knowledge	-.71	-.68
WJ-R Skills	-.79	-.46
SIB Total	-.99	.13
Canonical Correlation	.49*	.28*

* $p < .05$

extremely high on this factor. Of the four PSPC subscales, the physical competence subscale loaded the highest on this variate. None of the PSPC variables loaded highly on the second variate, and the measures of child functioning loaded less highly on the second than they did on the first. The WJ-R Broad Knowledge score had the highest loading on the second variate. Given that the cognitive and physical competence loaded the highest on the first variate and that all of the child functioning variables loaded very high on it as well, the first variate could be described as being characteristic of the child's perceived and actual level of competence. It explained 25% of the shared variance. The second variate was also significant but there was no specific variable that loaded highly on it, so a name for this variate was not given.

Association Between Demographic Variables and Self-Concept (Hypothesis 3)

It was hypothesized that demographic variables would be related to child self-concept, but that they would explain only a small proportion of the variance in the measure of self-concept. Correlations between the four subscales of the PSPC and certain demographic variables (child's age, mother's age, education of the mother, education of the father, family income, and gender of the child) are presented in Table 11. The magnitude of all these correlations was very low. The only correlations that were statistically significant were those between Family Income and Peer Acceptance, and Family Income and Cognitive Competence. The relationships between both of these were negative in direction. Overall, the correlations reported in Table 11 were generally lower than those reported with the measures of child functioning

Table 11

Bivariate Correlations Between the PSPC Subscales and Demographic Variables

PSPC Subscale	Child's Age	Mother's Age	Mother's Education	Father's Education	Family Income	Child's Gender
Cognitive Competence	-.07	.03	-.01	-.01	-.15*	.01
Physical Competence	-.11	.02	-.07	-.04	-.12	-.02
Peer Acceptance	-.04	.02	-.07	-.06	-.15*	.12
Maternal Acceptance	-.07	-.03	.04	.06	-.09	.10

* $p < .05$

(see Table 9), and thus the above hypothesis was supported by these findings.

Data yielded in the canonical correlation analysis using these two sets of variables are reported in Table 12. Both competence subscales of the PSPC loaded highly on the first canonical variate. Of the demographic variables (child's age, child's gender, mother's education, mother's age, father's education, and family income), the family income loaded the highest on this factor. On the second variate, the Peer Acceptance and Maternal Acceptance subscales of the PSPC loaded quite highly, but the gender of the child loaded the highest. These findings support an

Table 12

Canonical Correlation Data with Demographic Variables and PSPC Subscales

Variable	First Variate Loading	Second Variate Loading
Self-Concept		
Cognitive Competence	-.86	-.40
Physical Competence	-.81	-.07
Peer Acceptance	-.08	-.84
Maternal Acceptance	-.13	-.81
Demographic Variable		
Child's Age	.33	.04
Mother's Age	-.08	.10
Mother's Education	.23	.11
Father's Education	-.23	-.22
Family Income	.47	.20
Child's Gender	.31	-.91
Canonical Correlation	.27	.20

interpretation of the first canonical variate as being highly representative of the child's perceived competence.

Association Between Self-Concept and Family Situation (Hypothesis 4)

It was predicted that family situational variables would not be related to child self-concept (PSPC scores) and that they would explain very little variance in self-concept scores (Harter & Pike, 1984). Correlations between the four subscales of the PSPC and the three measures of family situations (Family Resource Scale [FRS], Family Support Scale [FSS], and the Holmes and Rahe's Major Life Events Scale [H-R]) are presented in Table 13. The magnitude of these correlations was very low, indicating little or no meaningful association between them. Not one of the correlations was found to be statistically significant. Thus, the above hypothesis was supported by the data.

Table 13

Bivariate Correlations Between the PSPC Subscales and the FRS, FSS, and H-R

PSPC Subscale	FRS	FSS	H-R
Cognitive Competence	.03	.09	.02
Physical Competence	.04	.06	-.02
Peer Acceptance	-.06	-.06	.02
Maternal Acceptance	-.07	-.06	-.01

The canonical correlation computed between these two sets of variables also yielded coefficients of low magnitude (see Table 14). All PSPC subscales loaded moderately on the first canonical variate, and the measure of family social support loaded the highest on this factor of any of the measures of family situation. With the

Table 14

Canonical Correlation Data with Measures of Family Situation and PSPC Subscales

Variable	First Variate Loading	Second Variate Loading
Self-Concept		
Cognitive Competence	-.54	-.60
Physical Competence	-.33	.22
Peer Acceptance	.38	-.52
Maternal Acceptance	.55	-.38
Family Situation		
Resources (FRS)	-.56	.66
Social Support (FSS)	-.92	-.39
Life Events (H-R)	-.09	.43
Canonical Correlation	.17	.08

exception of Physical Competence, all variables loaded moderately on the second variate. The Cognitive Competence subscale of the PSPC and the FRS loaded the highest. This pattern of loadings would fit with a description of the first variate as the general self-concept of the child. Since each of the self-concept domains was moderately correlated on this variate, it was labeled self-concept.

DISCUSSION

The purpose of this study was to examine the relationship between the self-concepts of children with developmental disabilities and demographic variables and measures of child and family functioning. In addition, the responses of these children were compared on a measure of self-concept (Harter & Pike, 1984) with those responses of the normative population provided by Harter and Pike.

The present research results indicate that children with disabilities were not found to have lower self-concepts in comparison with a sample of children without disabilities. In fact, the findings indicate that the two populations were nearly identical in their reported levels of self-concept. Although this finding was contrary to both the hypothesis of the present study and results of several previously published studies (i.e., Prout et al., 1992), it is very similar to the results reported by Coleman and Minnett (1993). Most importantly, however, the results might suggest that children with disabilities are able to develop a healthy self-concept in spite of (or perhaps, because of) the additional physical, language, and/or social burdens they face. For example, Stipek, Recchia, and McClintic (1992) found that preschool children claimed to be competent in an activity even if they have repeatedly failed at the task in previous tries. In their study, the self-concepts of children with disabilities were just as high as those of children without disabilities. Given the scarcity of research directly assessing the self-concepts of children with disabilities, as well as the contradictory evidence apparent in the extant literature, the results of the present study should be interpreted with some caution. However, should this study's results be replicated elsewhere, they have important implications for parents and professionals working with children who are disabled. Clearly, additional research is warranted.

The second finding of the present study was that a child's cognitive and adaptability achievement is related to the development of his or her self-concept. Results of the canonical correlation analysis indicate that these two constructs had approximately 25% shared variance. This finding sheds additional light on the findings of Harter and Silon (1985), who proposed that self-concept is developed primarily according to the child's cognitive level. Cognitive level is a key component of the measures used in this study (WJ-R and SIB). Thus, it appears that a trend is emerging in the literature: Children are more likely to have a higher feeling of self-competence if they have higher mental abilities as measured by Harter's PSPC.

The one area of self-concept that was not related to the measures of child functioning was peer acceptance. Apparently, the children felt that they were accepted (or rejected) by their peers, regardless of their performance on these two measures. This finding reflects the literature, which suggests that personality and social skills have a greater impact upon peer acceptance than cognitive ability. This finding may also be explained in light of the increasing numbers of children in the general population having more interaction with children with disabilities. As mandated by law, there is a considerable rise of mainstreaming and classroom "inclusion" policies. Because of the increased contact with children with disabilities, children without disabilities might be more accepting of children with disabilities. For example, King and colleagues (1989) found that normal children exposed to children with disabilities did become more accepting of them. However, this line of reasoning remains speculative until further research, which directly addresses the issue, is conducted.

The third hypothesis of this study, that demographic variables would explain little of the variance in the measure of self-concept (PSPC), was supported by the data. Overall, the constructs of demographic variables and self-concept had only a shared variance of 7.3%. Thus, it would appear that in the aggregate, most demographic variables are not highly related to the development of self-concept in children with disabilities. This is an interesting finding, because previous research has indicated that demographic variables often do influence other aspects of a child's development (i.e., Berger, 1994).

In the present study the only correlation that was statistically significant (even though the magnitude was quite small) was that between family income and peer acceptance and cognitive competence. The fact that it was a negative association, opposite of the common finding that income and cognitive abilities are positively related, may indicate that "feelings of cognitive competence" differ qualitatively from actual competence. An alternative explanation was proposed by Coleman (1985), who also reported a negative association between these two constructs. Coleman believed that the perceptions of children with disabilities from high SES levels are influenced by their social comparison group (other high SES children). Thus, the children with disabilities may compare themselves with children who are higher functioning than the general population and thus develop more negative perceptions of their own abilities than they would otherwise.

Family situational measures explained a much smaller amount of the variance (3%) in the measure of self-concept than either demographic variables or the measures of child functioning. This finding would indicate that parental perceptions of life events, resources, and social support currently experienced by the family did not meaningfully impact the self-concept of the child. These results are contrary to the findings of Vincent and Salisbury (1988), who found that changes in family dynamics over time are associated with high stressors, which may lead to a lower self-concept.

The findings in the present study may reflect on the nature that the variables associated with family life are often transient in nature, while the self-concept of the child is more permanent and therefore may be resistant to fluctuations in circumstances at home.

It was also interesting to note that in the canonical correlation analyses, the relationship between the self-concept components of competence and acceptance is in a negative direction. Perhaps an explanation of this finding may be that when children feel competent in cognitive and physical areas of their lives, they do not depend upon as much acceptance from their mothers or peers. Or another explanation is that Harter and Pike's measure (Harter & Pike, 1984) assesses two distinct constructs, competence and acceptance. Further investigation of this possibility is needed.

Limitations

In discussing the results, it is important to note that there were several limitations inherent in the present research. First of all, caution is urged when using instruments with children with disabilities that were originally designed for use with normal developing children. Harter and Silon (1985) concluded that children with disabilities may not make as many distinctions among interpersonal domains as normal children because they may not structure their self-perceptions with the same degree of cognitive complexity. Thus, the tasks required by the PSPC may be inappropriate for children with more severe disabilities than those participating in the present study. The realization that 27 children in the EIRI data set were unable to complete the PSPC provided some evidence to support this statement. Another aspect of the PSPC which may limit its usefulness with children with disabilities is the emphasis it places on physical competence. This domain may not be important to the self-concepts of all children, especially to children with disabilities. Thus, if children honestly report that they cannot do physical activities well, they may score as having low physical competence on the PSPC, even if they accept their physical limitations.

Despite these potential limitations, Harter and Silon reported that the same two scale factors, general competence and acceptance, did emerge from the data they collected with children with mental disabilities. Thus, the general PSPC domains do appear to be appropriate for both children with and without disabilities. Also, the finding that children in the present study scored similarly to the original normative sample on all subscales (including physical competence) may indicate that modification is not necessary. Nevertheless, more detailed examination of Harter's self-concept measure and its construct validity with children with disabilities would be an important component of future research.

A second issue is that the data from children with disabilities were compared, post hoc, with data from children without disabilities, which were derived from a completely different sample. Although this is acceptable from a statistical standpoint, comparing distinct samples drawn for different purposes and through different recruitment procedures is a methodological weakness, perhaps negatively impacting the internal validity of the study. Future examinations would do well to collect all data to be analyzed using consistent procedures across all groups.

Another limitation of the generalizability of the study to other populations (its external validity) concerns the issue of random subject selection. Because the sample of this study was drawn from volunteer participants who were not randomly selected, the results may not generalize to other populations of children with disabilities. Nevertheless, a strength of the present research was that the children and their families were selected from four distinct regions of the United States. Very few studies reported in the current literature have drawn samples from more than one region of the country.

A final limitation, which was described in detail previously, was that this study examined an extant data set in which subjects received diverse types of intervention. Even though no differences were found across the type of intervention received, it is nevertheless an issue of concern. Data from subjects with equivalent past histories would be optimal in conducting research such as that presented here. However, given that intervention procedures are decided on local school district and state levels and children enter early intervention programs at different ages, it is almost impossible to have equivalent histories of interventions.

Applications and Issues for Future Examination

Even with the above limitations, the present research has implications for issues related to the self-concepts of children with disabilities which deserve enumeration. For example, the finding that children with disabilities may develop healthy self-concepts, regardless of demographic or family situation variables, may come as "good news" to parents of children with disabilities who experience hardships related to major life events, social support, and resources. On the contrary, it may be that variables directly related to parenting practices, such as perception of the disability or the degree to which independent functioning is emphasized, impact children's self-concept more than the indirect ones just mentioned. Additional research is needed to determine the exact nature of these relationships.

Of the variables examined in the present study, the ones which impacted self-concept scores the most were the actual physical and cognitive capacity of the child to adapt to the environment. However, these variables only explained a moderate amount of variance in self-concept scores. Thus, it appears that there are perhaps multiple other variables which, although not addressed in the present study, may account for the remainder of the variance. The additional issues of child personality and social normative influences upon the child (i.e., teachers, friends) are important areas for future research to address in connection with the actual functioning level of the child.

This study also provides limited support for the use of measures of self-concept with children with disabilities. However, it is also apparent that the validity and utility of such a measure may be improved through gathering additional evidence of its psychometric quality with this important population. For example, confirmatory factor analysis and/or examinations of criterion validity could be conducted using these instruments in future studies.

Since children with disabilities are required by law (PL 94-124) to have the same opportunities to develop that normal children do, future research, such as that recommended here, can inform both policy and practice of key issues related to a child's self-concept. As more and more children are included in regular classrooms and in other aspects of "mainstream" society, the self-concepts of children with disabilities will likely undergo proportionate changes, for good or ill. It is the promise of future research to delineate which aspects of this change are positive and which should best be avoided.

CONCLUSION

Self-concept is the foundation on which personality is built and a primary determinant of behavior (Kiester, 1973). Despite the multiple efforts undertaken to better understand the self-concepts of children with disabilities, consensus has not been achieved. Rather, research has produced conflicting evidence as to how disabilities are related to aspects of self-concept.

The study reported here examined this important topic through the administration of measures of child self-concept, child academic achievement and independent functioning, and family situation variables to 248 children with disabilities who were participating in a larger longitudinal research project. Results indicated that there were no difference in the self-concept of children with disabilities and those without disabilities. Canonical correlation analysis indicated that the child's cognitive achievement and independent functioning skills were moderately related to their self-concepts, but demographic variables and family situation explained very little of the variance in self-concept. Nevertheless, there are several conceptual and methodological limitations of the study which, without the benefit of future replicative research, make these conclusions tentative.

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APPENDICES

Appendix A

The Pictorial Scale of Perceived Competence and Acceptance for Young Children

Plates — Preschool and Kindergarten, Female
Susan Harter and Robin G. Pike
In collaboration with Carole Efron and Christine Chao
Illustrated by Deborah Kolbo Ellsworth
1980

University of Denver

The Pictorial Scale of Perceived Competence
and Social Acceptance for Young Children*
Individual Recording and Scoring Sheet, Form P-K

Child's Name ______________________ Age ________ Gender: M F

Class/Grade ______________________ Teacher ______________________ Testing Date ________

Item Order and Description	Cognitive Competence	Peer Acceptance	Physical Competence	Maternal Acceptance
1. Good at puzzles	1 ___			
2. Has lots of friends		2 ___		
3. Good at swinging			3 ___	
4. Mom smiles				4 ___
5. Gets stars on papers	5 ___			
6. Stays overnight at friends		6 ___		
7. Good at climbing			7 ___	
8. Mom takes you places				8 ___
9. Knows names of colors	9 ___			
10. Has friends to play with		10 ___		
11. Can tie shoes			11 ___	
12. Mom cooks favorite foods				12 ___
13. Good at counting	13 ___			
14. Has friends on playground		14 ___		
15. Good at skipping			15 ___	
16. Mom reads to you				16 ___
17. Knows alphabet	17 ___			
18. Gets asked to play by others		18 ___		
19. Good at running			19 ___	
20. Mom plays with you				20 ___
21. Knows first letter of name	21 ___			
22. Eats dinner at friends'		22 ___		
23. Good at hopping			23 ___	
24. Mom talks to you				24 ___
Column (Subscale) Total:	☐	☐	☐	☐
Column (Subscale) Mean: (Total Divided by 6)	______	______	______	______

Comments:

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*Susan Harter and Robin Pike, University of Denver, 1983

Appendix B

KIT A3 STAND

WOODCOCK-JOHNSON

Tests of Achievement

STANDARD BATTERY

RICHARD W. WOODCOCK
M. BONNER JOHNSON

WJ-R
WOODCOCK-JOHNSON
PSYCHO-EDUCATIONAL
BATTERY—REVISED

DLM Teaching Resources

TEST BOOK FORM A

Introduction

The *Woodcock-Johnson Psycho-Educational Battery—Revised* (WJ-R) is a wide-range, comprehensive set of tests for measuring cognitive ability and achievement. The tests are administered individually, and norms are provided from age 2 to age 90. Special college/university norms are also provided.

The *Woodcock-Johnson Tests of Achievement* consist of 14 tests. The *Standard Battery* consists of Tests 22 through 30. The *Supplemental Battery* consists of Tests 31 through 35. Scores from different combinations of these tests provide information regarding an individual's academic achievement. Both the *Standard Battery* and *Supplemental Battery* are available in two forms (Form A and Form B).

Specific administration directions are provided page-by-page in all tests. Each *Examiner's Manual* includes suggested procedures for learning to administer, score, and complete the interpretation portions of the *Test Record.*

A full array of derived score and profile options are provided for reporting and displaying results. The most useful interpretations for program planning are accomplished by simply plotting the test scores onto norm-scaled profiles and by evaluating error responses. These procedures may be completed directly after testing without computation of derived scores or reference to the norm tables.

The *Technical Manual* is a separate publication that contains detailed information on the development and standardization underlying the WJ-R. Technical data, including reliability and validity data, are reported in that manual.

Appendix C

Scales of Independent Behavior

Woodcock-Johnson
Psycho-Educational Battery
Part Four

Robert H. Bruininks
Richard W. Woodcock
Richard F. Weatherman
Bradley K. Hill

Appendix D

3/20/91
I.W.
Name: ____________________

For Office Use Only
Child ID# __________

Date: ____________________

Holmes & Rahe
Major Life Events
(Adapted for EIRI Research)

FIND THE LIFE EVENTS THAT HAVE APPLIED TO YOU WITHIN THE LAST YEAR AND CHECK THEM IN THE COLUMN TO THE RIGHT.

	Item		
1.	Death of spouse	______	100
2.	Divorce	______	73
3.	Marital separation	______	65
4.	Jail term	______	63
5.	Death of close family member	______	63
6.	Personal injury or illness	______	53
7.	Marriage	______	50
8.	Fired at work	______	47
9.	Marital reconciliation	______	45
10.	Retirement	______	45
11.	Change of health in family member	______	44
12.	Pregnancy	______	40
13.	Sex difficulties	______	39
14.	Gain of new family member	______	39
15.	Business readjustment	______	39
16.	Change in financial state	______	38
17.	Death of close friend	______	37
18.	Change to different line of work	______	36
19.	Change in number of arguments with spouse	______	35
20.	Monthly mortgage greater than 1/4 of your monthly income	______	31
21.	Foreclosure of mortgage or loan	______	30
22.	Change in responsibilities at work	______	29
23.	Son or daughter leaving home	______	29
24.	Trouble with in-laws	______	29
25.	Outstanding personal achievement	______	28
26.	Spouse begins or leaves job	______	26
27.	Begin or end school	______	25
28.	Change in living conditions	______	25
29.	Change in personal habits	______	24
30.	Trouble with boss	______	23
31.	Change in work hours or conditions	______	20
32.	Change in residence	______	20
33.	Change in schools	______	20
34.	Change in church activities	______	19
35.	Change in recreation	______	19
36.	Change in social activities	______	18
37.	Monthly mortgage less than 1/4 your monthly income	______	17
38.	Change in sleeping habits	______	16
39.	Change in number of family get-togethers	______	15
40.	Change in eating habits	______	13
41.	Vacation	______	13
42.	Christmas	______	12
43.	Minor violations of the law	______	11

T ______

THANK YOU. ALL INFORMATION WILL BE KEPT CONFIDENTIAL.

Appendix E

Name: ____________

ID #: ____________

Date: ____________

Family Resource Scale

by

Hope E. Leet & Carl J. Dunst

This scale is designed to assess whether or not you and your family have adequate resources (time, money, energy, and so on) to meet the needs of the family as a whole as well as the needs of individual family members. For each item, please circle the response that best describes how well the needs are met on a consistent basis in your family (that is month-in and month-out).

To what extent are the following resources adequate for your family:	Does Not Apply	Not at All Adequate	Seldom Adequate	Sometimes Adequate	Usually Adequate	Almost Always Adequate
1. Food for 2 meals a day..........	NA	1	2	3	4	5
2. House or apartment..............	NA	1	2	3	4	5
3. Money to buy necessities........	NA	1	2	3	4	5
4. Enough clothes for your family........................	NA	1	2	3	4	5
5. Heat for your house or apartment......................	NA	1	2	3	4	5
6. Indoor plumbing/water...........	NA	1	2	3	4	5
7. Money to pay monthly bills......	NA	1	2	3	4	5
8. Good job for yourself or spouse..........................	NA	1	2	3	4	5
9. Medical care for your family....	NA	1	2	3	4	5
10. Public assistance (SSI, AFDC, Medicaid, etc.)................	NA	1	2	3	4	5
11. Dependable transportation (own car or provided by others)......	NA	1	2	3	4	5
12. Time to get enough sleep/rest...	NA	1	2	3	4	5
13. Furniture for your home or apartment......................	NA	1	2	3	4	5
14. Time to be by self..............	NA	1	2	3	4	5
15. Time for family to be together..	NA	1	2	3	4	5

Appendix F

Name: ____________________

ID #: ____________________

Date: ____________________

FAMILY SUPPORT SCALE
(Couple Version)

Listed below are sources that often times are helpful to members of families raising a young child. This questionaire asks you to indicate how helpful each source is to your family.

Please circle the response that best describes how helpful the sources have been to your family during the past 3 to 6 months. Cross-out any sources of help that have not been available to your family during this period of time.

		Not At All Helpful	Sometimes Helpful	Generally Helpful	Very Helpful	Extremely Helpful
1.	My parents..................	0	1	2	3	4
2.	My spouse's parents.........	0	1	2	3	4
3,	My relatives/kin............	0	1	2	3	4
4.	My spous's relatives/kin...	0	1	2	3	4
5.	Husband or wife.............	0	1	2	3	4
6.	My friends..................	0	1	2	3	4
7.	My spouse's friends.........	0	1	2	3	4
8.	My own children.............	0	1	2	3	4
9.	Other parents...............	0	1	2	3	4
10.	Church......................	0	1	2	3	4
11.	Social groups/clubs.........	0	1	2	3	4
12.	Co-workers..................	0	1	2	3	4
13.	Parent groups...............	0	1	2	3	4
14.	My family or child's physician....................	0	1	2	3	4
15.	Professional helpers (social workers, therapists, teachers, etc.)	0	1	2	3	4
16,	School/day care center.....	0	1	2	3	4
17.	Professional agencies (public health, social services, mental health, etc.)......................	0	1	2	3	4
18.	Specialized Early Intervention Services......	0	1	2	3	4
19.	Other (specify)............	0	1	2	3	4

To what extent are the following resources adequate for your family:	Does Not Apply	Not at All Adequate	Seldom Adequate	Sometimes Adequate	Usually Adequate	Almost Always Adequate
16. Time to be with children.......	NA	1	2	3	4	5
17. Time to be with spouse or close friend..................	NA	1	2	3	4	5
18. Telephone or access to a phone.........................	NA	1	2	3	4	5
19. Babysitting for your child(ren).....................	NA	1	2	3	4	5
20. Child care/day care for your child(ren).....................	NA	1	2	3	4	5
21. Money to buy special equipment/ supplies for child(ren)........	NA	1	2	3	4	5
22. Dental care for your family....	NA	1	2	3	4	5
23. Someone to talk to.............	NA	1	2	3	4	5
24. Time to socialize..............	NA	1	2	3	4	5
25. Time to keep in shape and looking nice....................	NA	1	2	3	4	5
26. Toys for your child(ren).......	NA	1	2	3	4	5
27. Money to buy things for self...	NA	1	2	3	4	5
28. Money for family entertainment...........................	NA	1	2	3	4	5
29. Money to save..................	NA	1	2	3	4	5
30. Travel/vacation................	NA	1	2	3	4	5

Appendix G

EARLY INTERVENTION RESEARCH INSTITUTE
UNIVERSITY AFFILIATED CENTER FOR PERSONS WITH DISABILITIES

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MEMORANDUM

To: Cindy Smith
From: Mark S. Innocenti
Co-Director, Early Intervention Research Institute
Date: 11/28/94
Subject: Permission to use EIRI protocols and data

Some concerns have been raised regarding the use of the following measures in your thesis: Woodcock-Johnson Test of Achievement Skills, Scales of Independent Behavior, Family Support Scale, Family Resource Scale, Holmes-Rahe Inventory of Life Events, and Pictorial Scales of Perceived Competence and Acceptance for Children. The information from these measures comes from the Early Intervention Research Institute's Longitudinal Studies data set. We have provided you with permission to use these data and the terms of this agreement has been written elsewhere. In regard to the specific measures used, EIRI has obtained permission to use these measures from the authors' in cases where the measures are not published. For published measures, EIRI purchases the instruments and protocols according to procedures established with the publishers. The data obtained from all measures becomes the property of EIRI and the federal government. Your use of the above mentioned measures in your thesis falls under our agreements which have addressed copyright issues.

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