Parents' and educators' beliefs regarding their influence on preschool children's competencies

Bronwyn Sara Fees
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Parents' and educators' beliefs regarding their influence on preschool children's competencies

by

Bronwyn Sara Fees

A dissertation submitted to the graduate faculty in partial fulfillment of the requirements for the degree of DOCTOR OF PHILOSOPHY

Major: Human Development and Family Studies (Child Development)

Major Professor: Jacques D. Lempers

Iowa State University

Ames, Iowa

1998

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Bronwyn Sara Fees

has met the dissertation requirements of Iowa State University

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Major Professor

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For the Major Program

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For the Graduate College
DEDICATION

In my family we live by this motto: The journey, not the arrival, matters. I have many people to thank who traveled this journey with me, most especially my husband, Gary, for his endurance and support, and our children Isaac (who assisted in assembling many surveys) and Alexander (who hid mommy’s notes so the “bad guys wouldn’t get them” much to mommy’s dismay). “Thank you” to the faculty and staff of Human Development and Family Studies and, in particular, Jacques Lempers, my major professor who helped me clarify my own ideas and carry them forward.

Finally, I dedicate this work to the memory of Dr. Dahlia F. Stockdale, University Professor, Human Development and Family Studies, who supported me both professionally and personally, and shared my excitement to study the influence of parenting on children’s development.
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It is important to acknowledge as well the participants in this study. I will never meet these individuals but the beliefs and comments they shared were the basis for this examination of parenting, caregiving, and child development.
ABSTRACT

Traditionally, parents have been considered the primary source of influence on development in children. However, many preschoolers spend substantial portions of their day in child care surrounded by peers. This study surveyed mothers', fathers', (n = 112) and early childhood educators' (n = 30) beliefs regarding their influence relative to other developmental agents (genetics, peers, siblings, and the child's own effort) on six cognitively and socially oriented child competencies. The parents' child (M = 49 months) served as the target child. All children received 30+ hours a week of nonparental care. Mother, father, and child lived within the same household. The child's educator was employed in center-based care. Data were analyzed using correlations and repeated measures MANCOVA with post hoc paired t-tests.

After controlling for the effects of education, number of children, and parental control, mothers and fathers believed themselves to have similar influence in fostering competence and were more influential than the educator, genetics, and child's own effort. Educators indicated no significant difference in influence between themselves, mother, and father; however, post hoc results indicated educators agreed with parents' lower rating of educators' influence as well as parents' higher rating of parental influence. With respect to specific competencies, both mothers and fathers believed their parenting was most influential in fostering cooperation and consideration within their child; the educator was least influential in assisting the child in gaining emotional control. Educators believed themselves to be most influential in fostering academic/school-type competence in children than in emotional control competence. Mothers of second- or third-born children rated sibling influence to be greater than mothers and
fathers of only or oldest children.

Mothers and fathers consider the father to be a coequal partner in parenting their children, indicative of the contemporary father image. Child, genetic, and peer influences are believed to be comparatively weak. Educators consider themselves partners in childrearing while parents allege primary affect. Implications include the importance of assessing both mothers' and fathers' beliefs for effective intervention. Additional research should focus on cultural differences in beliefs, discrepant within-couple beliefs, additional agents of influence, and parent-educator relationships in other care settings.
CHAPTER 1. INTRODUCTION

Study Rationale

It is well recognized among today’s social science researchers that human development is the result of an interaction between genetics (nature) and the environment (nurture). With respect to environmental influences, parents are considered the most salient and pervasive factor affecting development, the primary socializing agents (Maccoby & Martin, 1983), especially for the young child (Laosa, 1982). Current theories suggest one’s parenting style and sensitivity to the child are responsible for a child’s social and/or cognitive competency (e.g., Ainsworth, 1973; Baumrind, 1988, 1996). A profusion of empirical evidence readily supports the relationship between parent-child interaction and degree of competence within children in social and emotional development (e.g., Baumrind, 1988; Fagot, 1997; Shulman, Elicker, & Sroufe, 1994) and cognitive development as well (e.g., Crain-Thoreson & Dale, 1992; Laosa, 1982; Pellegrini, Perlmutter, Galda, & Brody, 1990; Steinberg, Elmen, & Mounts, 1989). Parenting theory also suggests that a parent’s behavior is multiply determined, with the psychological characteristics of the parent, which includes beliefs and attitudes, as one of the most critical factors (Belsky, 1984).

The supremacy of parental influence, however, has not gone unchallenged (Scarr & McCartney, 1983). There remains no lack of controversy among researchers regarding the degree of influence of parenting on development as compared to genetics or inherited traits (Baumrind, 1993; Scarr, 1992). Other agents such as the child’s peers and siblings in the home (Hartup, 1983, 1989) also have been implicated to affect development.

Currently, for the majority of children in the United States, early childhood is no
longer a time of nearly exclusive parent-child interaction. Children in nonparental care are involved consistently and routinely in an environment of many influential factors including the provider and other child care attendees, unlike their peers who are reared at home by the parent. Children reared at home are imbued with the parent’s organization of the environment (Scarr & McCartney, 1983) for the majority of their day in addition to selected interactions with others based upon the parent’s preferences and schedule. Although parents of children in child care may select the provider that most closely matches their own childrearing philosophy and values (Scarr & Eisenberg, 1993), the child care environment is not the same as that experienced at home; peers bring to child care the influence of their own home environment. Recent analyses conducted by the National Institute of Child Health and Human Development (NICHD) on the effects of nonparental care in young children have extended results of previous studies illustrating the relationship between the quality of caregiver-child interaction and child competency (Azar, 1997).

Overall, working parents are spending reduced amounts of time with their children. Hernandez (1997) reports most young children are spending their time in the care of nonfamily members because no parent is in their home for a large portion of the day. He further reports separation from parents may have implications for development of social relationships within and outside the family. Working families who place their child in child care may be challenged, then, in the belief that they are the most influential source for the child’s development.

Research has provided confirming evidence of the multiplicity of factors that affect child development (see Handbook of Child Psychology, 1997, edited by Damon for a current
review of research). Given such evidence, the question is how do parents of preschoolers evaluate their level of influence on the development of their child’s competence as compared to the influence of genetics and other socializing agents with whom the child comes in contact? This is a particularly pertinent question for parents of preschool children using nonparental care. No study published to date has addressed specifically this question with this population.

The focus of this study was to examine the congruence between mothers’ and fathers’ beliefs regarding the extent of their influence and that of other developmental agents on their child’s performance on socially related and cognitively related competencies. Mothers’ and fathers’ beliefs were compared with the beliefs of their child’s early childhood educator. A subcomponent assessed changes in beliefs among mothers’ and fathers’ as a function of parenting experience.

Research Questions
1. To what extent do mothers and fathers of preschool-age children using nonparental care believe their childrearing behaviors determine the development of their child’s competencies as compared to the extent of influence by other developmental agents: biology/genetics, spouse, early childhood educator, peers, siblings, and the child’s effort?
2. To what extent do early childhood educators believe that their interactions determine the development of a child’s competencies as compared to the influence of other developmental agents: biology/genetics, fathers, mothers, peers, siblings in the home and the child’s effort?
3. What is the extent of congruence between the beliefs of mothers, the beliefs of fathers,
and the beliefs of early childhood educators regarding the extent of determination each possesses on the child’s competencies?

4. How do mothers’ and fathers’ beliefs regarding the influence of their childrearing behaviors on their child’s competencies, and the influence of other developmental agents, change with experience in parenting?

Definition and Operationalization of Terminology

Beliefs “Beliefs are knowledge in the sense that the individual knows that what he (or she) espouses is true or probably true, and evidence may or may not be deemed necessary; or if evidence is used, it forms a basis for the beliefs but is not the belief itself” (Sigel, 1985, p. 348).

Child care center A facility that provides full-time child care in a group setting for seven or more young children as defined by the State of Iowa and is licensed by the State of Iowa in February 1998.

Competency “...a pattern of effective adaptation in the environment, either broadly defined in terms of reasonable success with major developmental tasks expected for a person of a given age and gender in the context of his or her culture, society and time or more narrowly defined in terms of specific domains of achievement such as academics, peer acceptance, or athletics” (Masten & Coatsworth, 1998). Competency within this study will refer to a cohort of children born between 1993 and 1995 currently living in the Midwest United States.

Child’s Effort The mental, physical, social, or emotional effort put forth by the child, either consciously or unconsciously, to achieve a particular end.
Developmental agents  Any element within the child or the environment that causes
developmental change or has been shown empirically to be correlated with developmental
change. In this study, the agents examined are: mothers, fathers, early childhood educators,
the child’s peers, the child’s siblings living in the home, the child’s own effort, and
biology/genetics.

Early childhood educator  The adult responsible for planning and implementing the curriculum
in the child’s room (lead teacher role) and with whom the child interacts on a daily basis.

Father  In this study, father is defined as either 1) the male biological parent of the child, or 2)
the male adoptive parent, the male stepparent, or the male adult with the additional stipulation
that he must have lived with the child six or more months.

Genetics  The genotype of a particular child that effects the phenotypic expression. In the
survey distributed to parents and educators, it will be referred to as “inherited characteristics.”

Mother  In this study, mother is defined as either 1) the female biological parent of the child,
or 2) the female adoptive parent, the female stepparent, or the female adult with the additional
stipulation that she must have lived with the child six or more months.

Nonparental care  Care by someone other than the parent of the child or family member.

Parenting  “It is the particular and continuing task of parents to prepare the next generation
for the physical, economic, and psychosocial situations in which it is to survive and thrive”
(Bornstein, 1995, p. xiii).

Peers  Children who are within two years of the target child’s age (Hartup, 1992). In the
survey, peers will be identified by the term “playmates.”
Siblings  Children who are related by sharing at least one biological parent, who are related by legal marriage of parents, or who have lived within the child’s home for more than six months. In the survey, siblings will be referred to as “brothers and sisters at home” at the time of completion.

Target child  The child of the mother and father who is receiving a minimum of 30 hours per week of nonmaternal and nonpaternal care, who is 3-years-old or older, and has not yet attended kindergarten.

Organization of Study

This study was based upon preliminary work with mothers and fathers. Ethnographic interviews were conducted with fathers and mothers living in the Midwestern United States who were asked to identify specific competencies they held for their preschool child. Parental responses (competencies) were analyzed into factors on a logical, intuitive basis with guidance from a review of instruments measuring child competence. The socially and cognitively related factors (latent competencies) served as the basis for this study.

Mothers and fathers (couples) of children receiving 30 hours or more of nonmaternal/nonpaternal care were surveyed using mail-in questionnaires. Six competencies were presented with a list of questions following each competence. Mothers and fathers were asked to rate their child’s level of performance on the particular competency and then to rate the extent of influence they believed they possessed and the extent of influence possessed by other factors: biology/genetics, spouse’s parenting behavior, the child’s early childhood educator’s caregiving, peers in child care, siblings in the home, and the child’s own effort. Questionnaires were administered to mothers and fathers of one preschooler (only child), and
families with two or more children, one of preschool age.

A parallel form was given to the child's early childhood educator to assess their beliefs on the extent of influence he/she possessed and was possessed by other factors including biology/genetics, fathers, mothers, siblings, peers, and the child's effort. Consistency between mothers' and fathers' beliefs, between mothers' and educators' beliefs, and fathers' and educators' beliefs were examined. Differences among parent groups (only children, first-born children and second- or third-born children) were examined to assess changes in the extent of influence perceived by mothers and fathers with experience in parenting.
CHAPTER 2. LITERATURE REVIEW

Developmental Agents

Human development is determined multiply. Growth and development generally are not so precarious as to be left at the mercy of one factor such as parenting (Scarr, 1992; Scarr & Ricciuti, 1991) or genetics alone. In search of the answer to the question of what causes inter-individual differences in development, researchers are motivated to identify the multiple determinants responsible for change in humans (developmental agents) and to assess how and when they moderate or mediate one another as well as the intensity of their influence.

The following review draws from the parent-child and parent social cognition literature from both developmental and social psychological perspectives, focused specifically on the prominent agents that currently are thought to effect individual differences in young children. Examined specifically in this review are fathers, mothers, the child's own effort, biology/genetics, peers, siblings, and the early childhood educator. The relationship between parental beliefs and child outcomes in general as well as parental beliefs about their effect on development in their young children will be examined next. Finally, literature reviewing current questionnaire techniques used in the measurement of beliefs will be examined in preparation of a questionnaire designed to assess parent and educator beliefs about the extent of their influence, and that of other developmental agents, on competence in early childhood.

Parents

Biblical accounts of direction to parents on rearing children provide evidence that parents long have been thought to affect the development of their offspring. During this century, a plethora of books and popular magazines have devoted themselves to giving advice
to parents on how to raise a competent child, continuously reshaping the culture's conception of what this means. Freud has received credit for bringing to the forefront the effects of parenting on children, although he did not address specifically the process of parenting in his psychosocial theory (Holden, 1990). Since Freud, it has been theorized and supported empirically that the behavior of the parent with the child is of consequence to the growth of the child (e.g., Baumrind, 1993), has long-term implications for the child (e.g., Schulman et al., 1994), may be extended to situations that do not involve the parent (e.g., Fagot, 1997), and may be transferred intergenerationally (Vermulst, de Brock, & van Zutphen, 1991).

Numerous theories have been developed since early in the twentieth century on the relationship between parent behavior and child outcomes. Watson's behaviorism (Watson, 1928) suggested the child was totally malleable, which allowed the parent complete control to produce the adult as desired (doctor, lawyer, crook, etc.). Skinner's behaviorism was an outgrowth of Watsonian thinking, and Bandura's social-learning theory elaborated on the Skinnerian perspective (Thomas, 1992). Each of these learning theories has provided guidance on principles of learning that has been extended in practical advice to parents.

Theories of cognitive development also have identified the parent as a critical element in learning. Vygotsky's socio-cultural theory (Vygotsky, 1986) suggested that learning is a social process. It is through social interaction with the parent (representing the cultural agent for the child) that the young child attaches meaning to words. Thought emerged from discourse, the process by which children create meaning. More recently, and extending the work of Vygotsky, Rogoff (1982) has examined the ways in which culture shapes the content of learning. The concept of "guided participation" suggested the parent is the mentor and
model for the child, who learns by observing and participating in adult activities gradually over time until adulthood is reached. The child is considered an apprentice to the parent.

Baumrind's (1988) theory of competent children has been, perhaps, one of the most well known and frequently used theories of parenting, specifically articulating the relationship between the variance in parent-child interaction and child outcomes. Baumrind has identified parent behaviors and attitudes that predict social and cognitive competency in children from preschool through middle childhood. Other researchers have extended her ideas through adolescence (e.g., Steinberg et al., 1989). Based upon repeated observations of preschool children, Baumrind proposed four basic styles of parenting that subsequently produce varying levels of social and cognitive competence in children: authoritative, authoritarian, permissive, and rejecting-neglecting. The use of these terms in the vernacular of the current American culture can be viewed as evidence of public acceptance of the theory.

Parenting styles were based upon the parent's level of responsiveness and demandingness in interaction. Parents who were high in both characteristics were labeled authoritative. Conversely, parents who were low in both were known as rejecting-neglecting. Parents high in demandingness were authoritarian while parents high in responsiveness were permissive.

Children were judged to be optimally competent, partially competent, or incompetent based upon their levels of communion and personal sense of agency. Communion refers to the ability to look beyond the self, to possess a sense of responsibility to others, while agency implies high self-efficacy, the belief that one's actions will have an effect including tactful assertiveness (Baumrind, 1996). Baumrind (1988) found children who were evaluated to be
optimally competent (high levels of both agency and communion) had parents whose
dominant style was authoritative. Parents of incompetent children were predominately
permissive or rejecting-neglecting, while partially competent children were products of all four
parenting styles.

The Steinberg et al. (1989) study on academic achievement in adolescents (10- to 16-
years-of-age) revealed a positive and indirect relationship between authoritative parenting and
achievement as mediated by the child’s attitudes. Children who had authoritative parents had
better attitudes toward school and a strong belief in themselves (psychosocial maturity and
agency), and subsequently performed better in school. Using a similar parenting typology,
Melby, Conger, Conger, and Lorenz (1993) found a significant positive relationship between
harsh/inconsistent parenting and adolescent tobacco use and a significant negative relationship
between tobacco use and warm/nurturant parenting.

Subsequent research has combined Baumrind’s typology and Vygotsky’s theory to
investigate further the relationship between parent-child interaction and learning. Parents who
were sensitive to their child’s current level of competency and based their assistance in a
dyadic task on this awareness, that is, the child’s “zone of proximal development” (Vygotsky,
1986, p. 187), also demonstrated an authoritative parenting style (Pratt, Kerig, Cowan, &
Cowan, 1988). Preschool children of authoritative parents were more successful completing
the task than were children of parents who used authoritarian or permissive styles.

Authoritative parents have been characterized as using person-centered discourse, clear
communication, and parent-child reciprocity, each requiring a depth of familiarity with the
child’s capabilities (Baumrind, 1996). It is not surprising, then, that Martin & Johnson (1992)
found mothers who had higher cognitive-developmental beliefs (the philosophy that knowledge is a product of the interaction of the child and the environment) were more accurate in evaluating their kindergartner’s cognitive competency than a mother who espoused learning or maturational views. Accuracy stemmed from interaction, which facilitated intimate knowledge of their child.

Conclusions drawn by researchers studying peer influence suggest parenting behavior also serves as a model for children’s interaction with peers. Mothers of preschoolers who were negative in their reactions to their children had children who received negative reactions from peers (Fagot, 1997). No correlation was found between positive parental interactions and child-peer interaction, however. Maternal conflict resolution strategies were found to relate positively to first-graders’ popularity: mothers who suggested prosocial solutions had children who were rated more popular than mothers who suggested hostile-aggressive solutions to fictitious social conflicts (Keane, Brown, & Crenshaw, 1990).

The problem with much of the research on parent-child interaction and child outcomes has been the complexity of the relationship, which does not lend itself well to experimentation (although manipulation is possible in lab settings but out of the natural context). Consequently, Scarr & McCartney (1983) and Belsky (1990) contend the correlational results in the majority of studies have limited the understanding of parent-child relationships. More recent research has applied structural equation modeling techniques (e.g., Melby et al., 1993) to examine inter-individual differences in children and intra-individual change in parenting over time.

In conclusion, the Western culture has endorsed the belief that parents not only have
the opportunity to affect, but are responsible for, their child's outcome, a theme perpetuated
by the popular media (Lightfoot & Valsiner, 1992). Theories and empirical evidence have
provided support for the conclusion that a relationship does exist and that parents are
conspicuous developmental agents for children.

**Biology/Genetics and the Child**

Unidirectional theories of parental influence on children (parents affect children rather
than the reverse) and related empirical results, particularly with respect to cognitive and
personality development, have been challenged thoughtfully by other researchers. The
characteristics of the child have been recognized as a powerful force in his or her own
development by affecting the behavior of the parent (Bell, 1979) and subsequent interaction.
Indeed, since Bell (1979), parenting theory has incorporated the characteristics of the child to
affect parenting behavior (Belsky, 1984) and empirical evidence does support the reciprocity
between parent and child. For example, a difficult temperament (e.g., Belsky, Hertzog, &
Rovine, 1986; Breitmayer & Ricciuti, 1988) and preterm developmental birth status
(Beckwith & Rodning, 1991) predicted parent behavior. As Bell (1979) emphasized, such
evidence should relieve parents of full responsibility for their child's outcomes:

> It is expected that a mere recognition of child effects alone, let alone
> reciprocal influences, should act to weaken the influence of certain
> pervasive but unrealistic positions on child rearing that have made parents
> unnecessarily wary and indecisive. (p. 821)

Researchers also have recognized the influence of biology and genetics as determinants
of physical characteristics such as height and weight, and mental characteristics based upon
the pioneering work of Arnold Gesell. Drawing upon his nomothetic study of child growth, including interviews with the mothers of the children, Gesell theorized that development was the result of genetically timed changes, a maturational perspective. Parents were advised to recognize that most children will pass through normative stages; the best parents could do was to be cognizant of the phase and the impending changes (Ilg & Ames, 1955). The idea of "readiness" has its roots in this maturational approach. Piaget (1970) has integrated, as well, the genetic "agent" in the timing of growth and change.

Extending the work of Bell (1968) and idiographic studies, as well as drawing from the behavioral genetics perspective and nomothetic studies, Scarr (1992) theorized a more complex relationship between genetics, the environment, and the development of inter-individual differences in children. In their seminal paper Scarr and McCartney (1983) proposed that children actively determine and participate in their own development. The theory of genotype-environment covariance hypothesized that a child's genetic composition largely determined how he or she experiences the environment. Children living at home are submerged in the environment of their parent's making (passive covariance). Over time, the child creates his/her own niche, a constructed environment that is based upon actively following their genetic predisposition (active covariance) and responses of others reacting to their characteristics (evocative covariance). However, the authors emphasized that the theory was not one of genetic determinism but rather one of probabilities.

Within the "normal species range" for humans (Scarr, 1992, p. 9), differences in parenting were deduced to be not responsible for differences between children. It is only when development occurs apart from this normal environment that the effects of parenting on
differences between children can be observed. For example, abusive homes are outside of the normal species environment. Therefore, the theory of minimal effect of parenting does not apply; parents are responsible for the environment and the child’s behavior and/or competency that results.

Parenting need only be “good enough” (e.g., Scarr & Ricciuti, 1991, p. 19). Parental overindulgence by providing unique and educational opportunities for their child may have little effect on increasing intellectual capabilities. Parents can influence attributes such as self-esteem or persistence, which were not considered inherited traits. Certainly, good enough parenting has challenged the belief among the Western population, particularly developmental psychologists, that parental effort largely is responsible for the intellectual and overall competence of their children. Scarr suggested,

Children’s outcomes do not depend on whether parents take children to the ball game or to the museum so much as they depend on genetic transmission, on plentiful opportunities, and on having a good enough environment that supports children’s development to become themselves.

(1992, p. 15)

Two sources of empirical work provide supportive evidence for Scarr’s theory. The first evidence comes from results of twin and adoptive studies, which show a higher correlation in intelligence between identical twins than between fraternal twins and related siblings (Bouchard, Lykken, McGue, Segal, & Tellegen, 1990; Tellegen, Lykken, Bouchard, Wilcox, Seal, & Rich 1988). Low correlations between adoptive parents and their adopted children and high correlations between parents and their children who were adopted by
another family were found in adoptive studies by Scarr and Weinberg (presented in Scarr, 1992). The results of these studies suggested that genetics, indeed, contributes to individual differences.

Results from intervention studies provide the second source of data. Children from low income or abusive/neglected homes (beyond the limit for supportive development) who have been enrolled in preschool programs have been shown to maintain over time a small increase in intelligence measures (Lazar, Darlington, Murray, Royce, & Sniper, 1982) irrespective of the type of program (Weikert & Schweinhart, 1986).

Finally, in a thought-provoking essay, Bjorklund and Green (1992) have reminded researchers that as a human species, biology or nature has endowed children with an extended period of dependency and immaturity to ensure adaptability to the range of environments in which humans survive. The authors cautioned readers not to confuse the immaturity of childhood with inefficiency. Children's "biologically determined cognitive systems" were designed to allow humans to be highly adaptable over a long lifespan. For example, a young child possesses an indomitable spirit in the face of repeated failures by constantly overestimating his/her abilities (Bjorklund, Gaultney, & Green, 1993). The authors hypothesized that playfulness in children encouraged creativity while slow information processing supported adaptability by not allowing early patterns of reasoning to become permanent. Our species' biological system and genetic traits contribute to the speed and form of development, although the limits of the effects of genetics, as well as of the rearing environment, remain unknown.
Other Agents

Beyond the effects outlined above, additional developmental variance between children can be explained by other environmental agents, specifically peers, siblings, and the early childhood educator for children in nonparental care. Hartup (1983, 1989) wrote that if the family is first and foremost in affecting development, then peers are the second most important source. In fact, children begin to prefer the company of a peer over the company of an adult as a playmate as early as 3-years-old (Ellis, Rogoff, & Cromer, 1981).

Family relationships and peer relationships differ in function and commitment, although some overlap is present (Hartup, 1989; Maccoby & Martin, 1983). According to Hartup (1989), parents and siblings represent a mentoring, or vertical, relationship wherein the young child learns basic social skills and the older partner provides protection and commitment to the relationship, most commonly during the first two years. Peer relationships, however, represent horizontal relationships characterized by equality of power, fluctuating commitment, and opportunity for elaboration of basic skills learned in the home. Hartup further differentiated sibling and peer relationships from parent-child relationships: parents experience slower changes in growth while peers and siblings are both facing developmental changes in rapid succession, often in parallel.

Peers

Conclusions drawn from empirical studies suggest children naturally play in mixed-age groups (Ellis et al., 1981), which allows them to assess and adapt their behavior to the level of the peer. Older children (Brody, Graziano, & Mussen, 1983) as well as children as young as 18 months (Brownell, 1990) attempt some adaptation in behavior to encourage a peer to play.
Peer groups provide opportunities to practice behaviors observed in the adult culture. In a qualitative study of peer interaction in an Italian nursery school, Corsaro and Rizzo (1988) observed preschool children participating in a “discussione,” which is an open debate or conversation guided by rules and behaviors learned only through observation of adults. The three boys in the study were discussing breach of a secret and in the process were learning about the nature of friendship and the cultural practices of the adult world (Corsaro & Rizzo, 1988). With 49% of children under 6-years-of-age receiving nonparental care in groups such as in a child care center (U.S. National Center for Education Statistics, 1995), exposure to peers becomes even more relevant for the preschool-age child.

The presence of peers provides opportunities for growth in all domains. Preschool-age children in mixed-age groups demonstrated higher levels of cognitive, communication, motor, social, and adaptive skills over children who were in single-age groups from 3- through 4-years-old (Bailey, Burchinal, & McWilliam, 1993). Likewise, peer rejection in middle school children was related to outcomes of loneliness and worry; that is, children who were rejected and submissive were more likely to express loneliness. (Parkhurst & Asher, 1992).

**Siblings**

The presence of siblings within the home also has developmental significance. Older preschool siblings, observed in the home, were found to exhibit more prosocial as well as antagonistic behaviors than younger siblings, but younger siblings, regardless of the age interval (1 year to 4 years), demonstrated more imitative behaviors of the older sibling (Abramovitch, Corter, & Lando, 1979; Pepler, Abramovitch, & Corter, 1981). In both same-sex and mixed-sex sibling pairs, the younger child submitted to aggression more frequently
than did the older child. Imitation decreased and aggression increased over time with mixed-sex pairs. Pepler et al. (1981) concluded that this submissive response of the younger child was crucial to maintaining interaction.

Cicirelli (1976) has identified the family context as an important factor in how siblings interact. In a study of mother-child and sibling-sibling interactions on a problem-solving task, Cicirelli (1976) found that older sisters gave younger siblings more explanations and feedback on the task than did older brothers. The size of the family was also a factor in the behavior of the younger sibling. Children from large families (three or more children) requested and received help from the sibling more frequently than children in families with two or fewer children; thus with whom one interacts may depend upon family characteristics.

The observation that siblings who share the same parents, genetic material, and household are often strikingly different has called into question the effects of a shared environment (Dunn, 1983). The correlation between related siblings’ intellect is low, evidence upon which Scarr and McCartney (1983) have drawn upon to suggest that, while siblings share many of the same environmental features, each sibling creates his or her own “niche” within the environment and, consequently, interprets home experiences differently.

In related cognitive psychological literature, the mere presence of siblings has been theorized to influence the intellectual level of the child. The confluence theory (Markus & Zajonc, 1977; Zajonc & Markus, 1975) was based upon the collective and synergistic intellectual levels of all family members. An increase in family size and intervals between the birth of siblings and the timing of their departure from the home have a direct impact on the intellectual development of the child. First, as family size increases, the absolute intellectual
level of the home environment decreases. Second, the longer the interval between births, the richer the intellectual environment for each child and the reverse for shorter intervals.

The older sibling's contribution to the intellectual environment was hypothesized to be always greater than the younger child's. The older child may serve as a teacher for the younger child; however, the youngest child was disadvantaged by not being able to perform this same role for a yet younger sibling. Although research has not provided consistent empirical evidence to support the theory (Steelman, 1985), the effect of siblings on individual development remains an important issue.

Early Childhood Educator

The final source of influence addressed in this study was that of the early childhood educator for children receiving full-time nonparental care. Child care had been characterized as an extension of the home environment (Elkind, 1986); the educator assumes a surrogate parent role for the child in the absence of his/her own parent. Parents select the care that most closely matches their own childrearing style, values, and attitudes (Howes & Olenick, 1986). While the quality of care provided by child care professionals has been a relatively recent issue (Scarr & Eisenberg, 1993), research has suggested the most important element in creating quality is the educator (Howes, 1992).

The premise that the characteristics of the educator were of consequence to child development has been supported by research. Conclusions based upon initial results from a seven-year study of children in child care, conducted by the National Institute of Child Health and Human Development (NICHD) Early Child Care Research Network, indicated that quality of interaction between the educator and the child predicted the linguistic and cognitive
competency of the child (Azar, 1997). Three variables explained a small but significant amount of variance in child cognitive and linguistic competencies: asking questions of the children, engaging children in conversation, and responding to the child's questions. Lack of stability in staff has been associated with low language and social competence evaluations in child care children; aimless wandering and less time engaged on social activities was observed in children in centers with high turnover rates (Whitebook, Howes, & Phillips, 1990).

The level of formal education was found to be the best predictor of developmentally appropriate caregiving for preschoolers, and specialized training was predictive of appropriate care in infant classrooms (Whitebook et al., 1990). Specialized training in child care was associated with higher Early Childhood Environmental Rating Scale (ECERS, Harms & Clifford, 1980) scores among family child care providers (Fischer & Eheart, 1991).

Conclusions regarding the relationship between experience with children and outcomes have been inconsistent. No relationship was found in the National Child Care Staffing Study (Whitebook et al., 1990) but Dunn (1993) found a negative relationship between experience and ratings of children.

The educational philosophy of the teacher also was predictive of child outcomes in early childhood programs. A didactic (adult-centered) approach to teaching was related to higher achievement in children; however, it was also predictive of higher levels of anxiety and dependency in children (Stipek, Feiler, Daniels, & Milburn, 1995). Such academic approach precluded positive social context (Stipek, Daniels, Galluzzo, & Milburn, 1992). Children in child-centered classrooms demonstrated higher perceptions of ability and more pride in accomplishments and a preference for challenge and learning basic skills (Stipek, Feiler et al.,
In summary, mother's childrearing practices, father's childrearing practices, biology/genetics, the child's effort, peers, siblings, and the early childhood educator were factors researchers found to be of consequence to child development. No one factor works in isolation from the rest, but in complex interactions with one another. Given the theoretical and empirical support for multiple agents, it was of interest to know what parents believe to be the extent of their influence on their child's development and if what parents believe was important was related to child outcomes. A review of the parent cognition literature was necessary to investigate these questions.

Parental Cognition

Beliefs Related to Child Outcomes

What parents believe is important for their children to learn or characteristics to possess does correlate with child outcomes (Miller, 1988). Belsky (1984) has suggested two ideas that clarify this link drawing from his determinants of parenting theory. First, parent-child interaction was itself multiply determined. Second, the psychological characteristics of the parent were the most important factor in determining parenting behavior and serve not only as a direct influence on parental behavior but also as a mediator for the effects of sources of support and stress (marriage, employment, and social network). Parental beliefs and attitudes were one component of parental psychological resources, and consequently would guide the behavior of the parent in interactions with the child and ultimately effect in particular child outcomes. Iverson and Segal (1992) suggested a similar three-part chain beginning with parental beliefs affecting parental behavior affecting child outcomes.
Empirical studies have provided evidence that there is a relationship between what the parent believes is important for the child to know and the child’s development. Hess, Kashiwagi, Azuma, Price, & Dickson (1980) surveyed 58 Japanese mothers and 67 mothers from the United States regarding competencies they believed were important for their children to have and when these competencies should appear: before 4-years-of-age, between 4- and 6-years-of-age, or after 6-years-of-age. Measures of the children’s cognitive development were taken at ages 4, 5, and 6 years. Cultural differences in competencies were observed in the results of the study. By the age of 4 years, Japanese mothers expected emotional maturity, compliance, and politeness, while mothers from the United States expected academic skills, social skills, verbal skills, and some independence/self-help skills.

At each stage, the child’s performance correlated with mother’s expectations for mastery of skills and personal characteristics or attributes. Regardless of culture, mothers who expected verbal assertiveness early had children who scored higher on a number of cognitive measures. In addition, Japanese mothers who expected early social skill competence, as compared to U.S mothers, had children who scored higher on school aptitude and intelligence measures.

Song and Ginsburg (1987) examined informal and formal mathematical thinking in a study comparing Korean preschoolers and preschoolers from the United States. Preschoolers from the United States scored higher than Korean children on formal mathematical thinking. However, by the age of 7 years, the Korean children’s scores exceeded the comparison group in the United States. The dramatic change in performance was attributed to the beliefs of the parents in their respective countries. Korean parents did not believe it was appropriate to
provide active stimulation of mathematical concepts to the child in the home before formal schooling, which contributed to the low scores for Korean children. Nevertheless, after the child entered school, Korean parents believed academic performance was critical and, subsequently, facilitated quantitative analyses at home. The parents in the United States did not stress mathematical performance in the early elementary grades to the same degree.

In a study focusing on American parents only, Schaefer and Edgerton (1985) measured parents’ beliefs about education using the Parent Modernity Scale (Schaefer & Edgerton, 1985). Parents were classified as traditional/authoritarian or progressive/democratic. In a series of repeated studies including kindergarten children, parental beliefs were correlated with academic performance of the children. Parents who held traditional (authoritarian) beliefs had children with lower performance on academic measures as compared to children of parents who held progressive (democratic) beliefs.

One large-scale study has attempted empirically to link beliefs, interactions, and outcomes. Parental beliefs about how children learn played a mediating role between demographic characteristics of the parent and the parent’s teaching strategies used in a teaching situation with their child (McGillicuddy-DeLisi, 1982). Sigel (1982) proposed subsequently that the teaching strategies used, called “distancing strategies” (p. 50), would predict the scores on measures of intellectual outcomes. Distancing strategies were techniques used by parents that required the child to separate him/herself psychologically from the task at hand and mentally to represent the information such as asking questions or making statements. The use of such strategies was hypothesized as critical in developing representational competence according to Sigel (1982). In the belief-strategy portion of the
study, parents completed a 12-question interview in which they were presented with vignettes describing everyday situations and then asked how a 4-year-old might learn a particular concept integral to the situation such as telling time or floating/sinking. Responses were coded into developmental states and processes. Parents then were observed in the interaction with their preschool child in two tasks: telling a story and folding a paper boat. Parental distancing strategies used during interactions were coded.

After controlling for socioeconomic status (SES), the number of children in the family, and the distance between children, it was observed in the results that beliefs explained variance in distancing strategies beyond that predicted by SES and family constellation albeit the proportion of additional variance explained was small (according to the standards set by Nunnally, 1978), less than .30. Secondly, fathers’ beliefs about learning (predominantly accumulation of knowledge rather than modeling) were more consistent across tasks (story telling and paper folding) than mothers whose predictive beliefs differed depending upon the task. McGillicuddy-DeLisi (1982) concluded mothers take into account their own child’s performance and characteristics when interacting with the child while fathers varied less in their teaching styles because their beliefs were not differentiated by these characteristics.

Sigel (1982) concluded from his results that the distancing strategies used by parents predicted child’s performance on cognitive measures beyond demographic characteristics (SES, family constellation, and interaction terms) with small to moderate squared correlations.

Demographic characteristics appear to be related to beliefs, although the picture is inconsistent. The higher the mother’s SES as measured by her education, the less likely she was to use adult-directed and controlled instruction (McGillicuddy-DeLisi, 1982; Schaefer &
Edgerton, 1985). However, Martin and Johnson (1992), in a study of maternal beliefs about child development (learning, maturational, cognitive-developmental), found no relationship between beliefs and mother's education, geographic location of the family home, number of children in the family, and the child's ability.

Although there is empirical evidence supportive of the relationship between parental beliefs and behavior, and ultimately child outcomes, researchers have expressed some disappointment in the lack of strong relationships (Holden, 1990; Holden & Edwards, 1989; Miller, 1988). Criticisms revolve around mainly methodological issues, including no reported reliability or low reliability (internal consistency) and a lack of attention to the construct and criterion validity associated with the instrument (Holden, 1990; Holden & Edwards, 1989). Miller (1988) described results as quite modest and research as limited in the range of ages of children examined (predominantly infants with few studies in preschool and middle childhood) as well as focused on the generalized child rather than a specific child (i.e., the parent's child). Directions of causality as well have not been addressed adequately with the continued use of unidirectional (parent to child) models conveniently sidestepping the theory of reciprocity proposed by Bell (1969).

To enhance further research efforts, Miller suggested grounding instrumentation in the natural responses of parents and including nonparents, children, and diverse cultural populations. Additional suggestions were the inclusion of SES and culture as variables, and using a longitudinal design. Miller (1988) and Goodnow (1988) suggested drawing from the methods of experimental social psychology and anthropology to measure concepts with more precision. However, parental cognition (beliefs, ideas, attributions) remains a field worthy of
study even in the face of challenging results (Goodnow, 1988; Miller, 1988).

**Belief of Affect on Development**

**Parents**

Parents in Western culture have been encouraged to believe they are the strongest source of influence (Lightfoot & Valsiner, 1992). In fact, parents do believe that their influence on their child is the greatest during early childhood, before the child enters public school, around 5-years-of-age (Knight, 1981). In her doctoral dissertation, Knight interviewed 94 Australian parents (fathers and mothers) of children in preschool and in school (under the age of 10) regarding their beliefs about cognitive development. Although SES was not controlled in the study, the majority of mothers were homemakers and nearly half had no education beyond high school. When asked the source of brightness in the child, 40% of parents of preschoolers credited the environment and 36% suggested brightness was due to heredity. The results were quite different for parents of school-age children (M = 6.1 years). Thirteen percent suggested it was the environment while 70% credited heredity. Chi-square analysis revealed the difference was significant.

When asked how much influence they thought they had over “what your child is good at” (Knight, 1981, p. 228), the majority of parents of preschoolers expressed “quite a lot” (62%) while only 37% of parents of school-age children expressed the same. Chi-square analysis revealed again that the difference was significant. Effort put forth by the child was considered more important for the school-age child (60% of parents said “very important”) than for the preschool child (35% of parents said effort was “very important”). Overall there was an apparent shift from the primacy of the environment to genetics as the child moved
from preschool status to attending school. Knight (1981) concluded, "Once children are in
school, parents share prestige and decision-making with a new group of 'significant others' (p.
228).

Himelstein, Graham, and Weiner (1991) found corroborating results when examining
mothers' attributions for child performance in three domains: academic, social skills, and
personality. Degree of attribution for performance was analyzed with respect to genetics,
parenting, or other environmental factors. Three groups of mothers participated based upon
their child's performance: gifted, average, and special needs. The children ranged from 5- to
17-years-old and were classified as an only child or a child with siblings. It was observed in
the ANOVA analyses that mothers believed genetics was more influential in academic
achievement than in social skills and personality. The relationship between genetics and
academics, beginning at age 5 years, was consistent with Knight's (1981) findings.

The only consistent conclusion that can be drawn with respect to the differences
between mothers and fathers is that there is no consistency in the findings. Knight (1981)
found no differences between the ideas of the mothers and fathers with the exception of
mothers perceived significantly more overlap than fathers in the relationship between home
and school responsibility and influence. Clarke-Stewart (1978) interviewed fathers and
mothers of children when they were 15-, 20-, and 30- months old. No differences were found
between mothers and fathers in their rating of the competence of their child, their expectations
for age at which developmental milestones would occur, nor when they would try to teach
their child a particular skill.

These finds appear contradictory to those of Russell and Russell (1982). The
researchers examined the differences between mothers and fathers on the degree of influence parents believed they had over specific goals they held for their sixth grade child. Recognizing the influence of the child, they asked the child the degree of influence they felt their parents had in their attainment of the parental expectations. The results were interesting methodologically in that they found fairly consistent ratings of importance between the groups (mothers and fathers) on the majority of the goals (68%). However, when examining the extent of agreement within the family, they found more disagreement than agreement between spouses. Identical ratings of influence were found between spouses on only 14% of the items (3 of 22). "Thus, while mothers and fathers as a group might seem substantially to agree on many of the items, it is usually not the individual mothers and fathers in the same families who agree" (p. 304).

When compared, mothers, as a group, felt they greatly influenced social-emotional skills such as "Express love and affection" and "Well-mannered, neat and tidy" (Russell & Russell, 1982, p. 301). The only item fathers felt they influenced greatly was "financial security in the future" (p. 301). Fathers felt they had more influence over their sons than over their daughters, while mothers did not show differentiation by sex of the child.

Differences also were found between mothers and fathers on the importance of the competency. Again, mothers rated social-emotional skills as more important than fathers. Fathers, as a group, had no ratings higher than mothers. Within families, spouses agreed on level of importance on only 14%, or 3 of 22 items (Russell & Russell, 1982).

Simons, Whitbeck, Conger, and Melby (1990) interviewed parents of seventh graders in rural Iowa to examine the effect of the belief in "parenting as consequential" (p. 385) on
constructive and destructive parenting behaviors. Using structural equation modeling, results indicated that mothers' belief and fathers' belief of their “parental impact” (p. 383) were correlated significantly and that the belief of impact predicted significantly constructive parenting for fathers but not for mothers. The authors concluded, “a father’s degree of involvement in the parenting process is a function of his wife’s beliefs about what is necessary and important” (p. 387) rather than simply adopting the wife's perspective.

Failure to find consistent findings may indicate child age was a moderator of beliefs; that is, parents of preschoolers have high agreement that their parenting is consequential as compared to parents of children 11-years-of-age and older (Russell & Russell, 1982; Simons et al., 1990). It also may be a function of the criterion validity of the instruments used in the studies, that is, failure of Knight’s (1981) instrument to be sensitive enough to discriminate between the groups. Both Knight (1981) and Himelstein et al. (1991) used single-item scales; no reliability was assessed. Of the remaining three studies, each using several-item scales, only Simons et al. (1990) reported internal consistency results (Cronbach’s alpha = .59 for mothers and .50 for fathers). Again, the absence of a reported reliability and the presence of low reliability were cited as critical problems, with the scales measuring parental beliefs (Holden, 1990; Holden & Edwards, 1989). Less global, more specifically defined questions may enhance criterion validity (Holden & Edwards, 1989).

Intuitively, parents who have more than one child, and thus could make comparisons in development between their children, may believe they have less influence over development than parents who have only one child without an immediate source of comparison. Research does suggest that the experience of parenting appears to influence parental beliefs. Again,
drawing from the Himelstein et al. (1991) study, mothers of only children felt they had significantly more influence over the performance of their child than mothers with several children, regardless of the performance level of the child (gifted, average, or child receiving special education services).

Examining the results from an attribution theory perspective, the authors concluded that covariation was present. Mothers with only one child do not have a second child for direct comparison of variance in developmental progress and subsequently believe the progress observed in their child was attributable largely to their parenting. By comparison, mothers of several children, who share the same environment and parents, readily observed the differences in development between siblings, subsequently attributing less influence to parenting. Of the three populations, mothers of children in special education programs attributed less to parenting (compared to other environmental effects) than did parents of gifted or average students.

McGillicuddy-DeLisi's (1982) study found differences in beliefs about how preschool children learn as a function of the number of children in the family (one or three). Parents of one child referred more often to direct instruction from adults than did parents of three children. They referred less often to negative feedback, self-regulation, and impulsivity in children. The reliance on adult input (instruction) by parents of singletons appears consistent with the belief that parenting is of consequence in the preschool years (Knight, 1981). Consequently parental belief about the extent of influence varies not only by age of child but also by the number of children in the home.

In summary, parental beliefs about the degree to which their childrearing behaviors
determine outcomes vary by age of the child, by disabled or exceptional status, and by the number of children in the family. It is not clear if parents’ belief of effect varied by SES since this was not examined consistently or at all in any of the studies cited above. In addition, the findings were limited to generalizations across three domains (cognitive, social, and personal) rather than about competencies specific to the age of the child.

**Early childhood educators**

Researchers who have examined beliefs among early childhood educators have found evidence to suggest that educators perceive their caregiving as influential on the child’s development. In general, parental childrearing was viewed negatively by caregivers although the perception was moderated by the age of educator, the educational level of the educator, and the socio-economic status of the parent-client (Kontos, Raikes, & Woods, 1983). College educated and older providers who were parents themselves viewed parents more positively than their younger, less educated, and childless counterparts. The type of center moderated the staff perception of parents. Head Start and child care center parents were viewed as less competent by staff than parents of preschool attendees (Kontos, et al., 1983).

Rosenthal (1991), in an assessment of 41 Israeli family child care providers, found providers rated their influence on development higher than mothers’ and fathers’. The relationship was negative and significant between educators and mothers. Ratings differed also by developmental domain. Educators perceived greater influence on the child’s social development than in their emotional development or sense of independence; however, educators who attributed higher levels of influence to themselves in one domain did so in each of the other domains (Rosenthal, 1991).
Contrary to Kontos et al. (1983), Rosenthal found a positive relationship between educational level of educator and their own belief of extent of influence. The higher the level of education among educators, the more outcome the attributed to themselves and the less outcome they attributed to the parent. Attributions were also found to predict quality of care. Educators' beliefs of a higher level of influence correlated with positive interaction with infants and toddlers and less time in group interaction (Rosenthal, 1991).

In summary, educators perceived that their parent clientele has less influence over the child's development than themselves and that parent-childrearing behavior was inferior to their own. Educator characteristics, specifically educational level, as well as parental characteristics moderated the perception of influence.

It is readily apparent that multiple factors affect development, and particularly that parents are only one of many sources of influence. It is also clear that parental beliefs do affect their behavior and that parental beliefs are related to child outcomes. The question remains, in light of the multiplicity of developmental agents: How do parents rate their degree of influence on their preschool child on particular competencies and overall competence compared to the influence they believe other factors possess? In addition, how do parental ratings compare with those of their child's early childhood educator given the child spends substantial time with him/her? To assess beliefs regarding degree of influence, an instrument must be developed.
Justification for Instrument Development

Purpose

The purpose of this instrument was to assess the degree to which fathers, mothers, and early childhood educators believe each influence a preschool child’s competencies. In addition, the instrument must assess the degree to which each of the following developmental agents influence the child’s competency: biology/genetics, peers in child care, siblings in the home, and the child’s own effort.

Rationale

The focus of this study was not on objective evaluation of a child’s competence but on parent and educator beliefs about the extent of influence they and additional developmental agents contribute to developmental outcomes. However, an evaluation of child competence by these adults within the childrearing context, has been a fairly direct technique used to examine beliefs about the multiplicity of factors that affect child competency. In fact, the adoption of Masten and Coatsworth’s (1998) definition of competence (see introductory chapter) was based upon concurrence with the following premises: “a) competence requires the organization and coordination of multiple mental and physical processes; b) there are multiple pathways to good developmental outcomes; c) complex internal and social processes are involved in achieving competence; and d) competent ‘outcomes’ are part of ongoing processes and therefore are inherently dynamic rather than static in nature” (Masten, Coatsworth, Neeman, Gest, Tellegen, & Garmezy, 1995).

Instruments have been designed that list child competencies or expectations parents have for their children. Parents rate the degree of importance of the competency or the age at
which they expect children to exhibit these characteristics (Hess et al., 1980; Iverson & Segal, 1992; Russell & Russell, 1982; Schaefer & Edgerton, 1985; Segal, 1985). Others ask parents to rate their degree of influence over particular characteristics or domains (Himmelstein et al., 1991; Knight, 1981; Russell & Russell, 1982; Simons et al., 1991).

Among the competency instruments only Russell and Russell’s (1982) 22-item scale did not differentiate the items into clusters or factors. No specific age range was set for attainment of the competencies elicited by the question, “What kind of people would you like them to be?” (p. 299). Hess et al. (1980) provided eight clusters in the 38-item scale designed for children 4 years and older: Emotional Maturity, Compliance, Politeness, Independence, School-related Skills, Social Skill, Verbal Assertiveness, and items not in any of the above clusters.

The Q-sort (Iverson & Segal, 1992; Segal, 1985) was designed for children between the ages of 3 and 5 years based upon interviews with low-SES parents. The following categories emerged from a factor analysis: Process Goals, Cooperation, Obedience, Success and School, Competition, and Ethical Values. Five indicators were listed under each factor. Schaefer and Edgerton’s Revision of M. L. Kohn’s (1977) Rank Order of Parental Values (1985) asked parents to sort three separate sets of five competencies (each) in order of importance. Responses were summed into three value subscales: Conformity, Self-Directing, and Social. The scale has been used with kindergarten and first-grade children. Low reliabilities were reported on Process Goals and Obedience scales by Iverson and Segal (1992). No estimates of validity were made. Schaefer and Edgerton subscales were factor analyzed with other scales; however, no estimates of scale reliability were presented. None of
the scales included items addressing physical health and control. In each case, competencies were global rather than addressing the skills of the specific age group.

Among instruments that requested parents to rate their degree of influence, only Russell and Russell (1982) asked parents to rate the degree of influence on each competency. Both Knight (1981) and Himelstein et al. (1991) used single-item indicators, or global questions, without specific indicators to assess influence. For example, Himelstein asked, "To what degree have your child-rearing practices [the things you have done as a parent] determined your child's school performance [social skills, personality]" (p. 305). Parents also were asked to rate the extent of influence of biology/genetics and environmental experiences, which were not differentiated further. No question about the extent of influence from the child's effort was asked. Knight (1981) used single-item questions as well to assess the degree of influence of parenting and genetics on cognitive performance. Again, no discussion of reliability or validity was provided with either instrument. The only instrument that provided psychometric information was Simons et al. (1991) "Parenting as consequential" five-item instrument; however, the instrument itself was not published so no further analysis could be done.

For this study, an instrument was needed that addressed competencies specific to preschool-aged children (Bandura, 1977; Holden, 1990; Holden & Edwards, 1989). They needed to be sensitive to the culture in which the family lives, that is, grounded in the culture (Okagaki & Sternberg, 1991). Finally, the instrument must differentiate the following developmental agents: parent (childrearing), genetics/biology, the child's effort, peers, siblings, and the child's early childhood educator. Because none of the instruments above met
this criterion, a new instrument was developed.

**Methodological Issues**

While measurement of constructs is fundamental to social science research, there is agreement among researchers that inadequate attention has been given to the development of good measurement instruments (Holden, 1990; Holden & Edwards, 1989; Sabetelli & Waldron, 1995). Instruments are needed that allow researchers to quantify or measure phenomena that occur in the home (parent-child interactions or parent social cognition) that are difficult to access and complicated by many practical and ethical considerations (Holden, 1990). A primary goal of measurement has been to assess accurately the construct with a minimum amount of error; however, error is common in attempts to assess latent, nonobservable constructs (Sabetelli & Waldron, 1995). Consequently, the first and most important step in the measurement process should be conceptualization, linking theory and measurement through careful definition of terminology (Holden & Edwards, 1989; Sabetelli & Waldron, 1995).

Paper-and-pencil surveys of parent cognition have been the most popular data collection technique used in the parenting literature, over observation and interview methods (Holden, 1990). However, self-administered parent attitude questionnaires are replete with measurement error (partly due to poor conceptualization) and as a method must be refined or dropped altogether according to Holden and Edwards (1989). In a critique of parent childrearing questionnaires, Holden reviewed the methodological problems shrouding questionnaires (Holden, 1990; Holden & Edwards, 1989). Problems appear to cluster around the format of the instrument and the psychometric properties of reliability and validity.
Format problems have revolved around the ambiguity of the items (Holden & Edwards, 1989). Items often have been decontextualized in an attempt to be global, despite the awareness that parental attitudes are a result of a multitude of specific interactions and experiences. Parents are not clear how to respond to questions out of situation or context. Statements that contain two distinct items joined by “and” are unclear as to the subject of the sentence and are especially confusing. Question clarity also has been complicated by response scales that do not answer the question such as asking level of agreement with a statement such as “I spank my child.” Response sets were problematic as well such as marking all answers on one extreme or the other.

To minimize ambiguity, Holden and Edwards (1989) have suggested writing in first person and clearly specifying the context in addition to keeping language clear and free of popular clichés. Researchers have been cautioned to also check that their statements can be answered clearly by the response scale. Social desirability, while a problem, has not been studied adequately with effective solutions and thus continues to be a problem of which to be cognizant.

Problems with psychometric properties have focused on reliability and validity, specifically the lack of such information provided by the scale authors(s). While both should be required (reliability, at the minimum), an assessment of the degree of random error in the instrument must be provided (Holden, 1990; Holden & Edwards, 1989). Unfortunately reported reliability frequently has been low, often much less than the .80 recommended for research by Nunnally (1978).

A high reliability, while necessary, is not a sufficient condition for validity (Pedhazur &
Validity concerns whether this instrument measures what it was intended to measure. Three types of validity may be reported including content, construct, and criterion validity. In Holden’s (1990) review of parenting instruments, less than half included such information on their instrument, yet, after reliability, validity has been recognized as a fundamental issue if groups are to be differentiated or behaviors predicted. Both poor formatting (which leads to psychometric problems) and lack of or low reliability and validity are common and undermine the utility of the data collected by survey techniques. Given the ease of administration as well as cost efficiency in collecting large amounts of data, there is little doubt that questionnaires will continue to be popular among parent-child researchers (Holden & Edwards, 1989).

Hypotheses

Considering the review of literature, the following research hypotheses are proposed.

1. Mothers, as a group, will rate their own influence as greater than they will rate their perception of fathers’ influence, with the fathers rating their influence as less than their perception of mothers’ influence.

2. Early childhood educators will rate the influence of their practice to be greater than their evaluation of mothers’ influence and of fathers’ influence across all competencies.

3. Mothers will rate their own influence as equal to or higher than their perception of the early childhood educators’ influence but fathers will rate their influence as equal to or less than their perception of the early childhood educators’ influence.

4. Across all competencies, the early childhood educator will rate mothers’ influence and fathers’ influence as less than the mothers’ rating of themselves and the fathers’ ratings of
themselves and mothers will rate the educators' influence as lower than the educators will rate their own influence but fathers will rate the educators' influence equal to the educators' rating of their own influence.

5. Mothers and fathers of two or more children will rate genetics and sibling influence higher and their own parenting practices as lower than will mothers and fathers of one child.
CHAPTER 3. METHODS

Participants

Three groups participated in this study: fathers, mothers, and early childhood educators. All participating parents had to meet the following criteria: 1) he/she was the parent of a preschool-aged child (between 3- and 5-years-of-age) who had not yet attended kindergarten; 2) he/she was living in the home with the parent of the opposite gender; 3) his/her child was receiving 30 or more hours per week of out-of-home care, either full-time child care in a center or part-time center child care and part-time preschool; and 4) his/her child was not formally diagnosed with a mentally disabling condition or disease. All participating educators were identified by the parents as their child’s head teacher. This was the only qualifying criterion. Children did not directly participate in the data collection process; however, each parent’s own preschool child was the “target child” evaluated in the survey. Evaluating one’s own child rather than children in general capitalizes on the sense of “ownness” felt by the parents about that child (Holden & Edwards, 1989). Educators evaluated the parent’s child when completing their survey. The participant sample in this study included 56 mothers and 56 fathers (couples) and 30 early childhood educators.

Overall, 53 couples reported being married and three couples reported being unmarried (engaged or single and living together and each parent reporting the child to be their biological child) (Table 1). The modal range (25 couples) for hours of care per week received by the target child was 40 to 45 hours with the remaining parents reporting between 31 to 35 hours, and 51 to 55 hours. Each parent was asked to give his/her estimate of the
### Table 1

**Demographic Characteristics of Couples**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Annual family income</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$10,001 to $20,000</td>
<td>1</td>
<td>1.8</td>
</tr>
<tr>
<td>$20,001 to $30,000</td>
<td>2</td>
<td>3.6</td>
</tr>
<tr>
<td>$30,001 to $40,000</td>
<td>4</td>
<td>7.1</td>
</tr>
<tr>
<td>$40,001 to $50,000</td>
<td>4</td>
<td>7.1</td>
</tr>
<tr>
<td>$50,001 to $100,000</td>
<td>35</td>
<td>62.5</td>
</tr>
<tr>
<td>Over $100,001</td>
<td>10</td>
<td>17.9</td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married (husband/wife)</td>
<td>53</td>
<td>94.6</td>
</tr>
<tr>
<td>Unmarried partners</td>
<td>3</td>
<td>5.4</td>
</tr>
<tr>
<td><strong>Hours in child care</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31 to 35 hours</td>
<td>5</td>
<td>8.9</td>
</tr>
<tr>
<td>36 to 40 hours</td>
<td>9</td>
<td>16.1</td>
</tr>
<tr>
<td>41 to 45 hours</td>
<td>25</td>
<td>44.6</td>
</tr>
<tr>
<td>46 to 50 hours</td>
<td>15</td>
<td>26.8</td>
</tr>
<tr>
<td>51 to 55 hours</td>
<td>2</td>
<td>3.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of children in home</td>
<td>1.80</td>
<td>.62</td>
<td>1 - 3</td>
</tr>
</tbody>
</table>

Notes: *Based upon mother’s reported number of hours in care.

Combined annual family income. Reported income ranged from $10,001 to over $100,001 with a mode of $50,001 to $100,000 (63%). When income reports between mothers and fathers were discrepant (six cases), father’s report was alternated with mother’s report between cases. Descriptive statistics for fathers and for mothers are reported in Table 2.

Fathers’ age ranged between 23 and 47 years with a mean of 36.24 years (SD = 5.26).

The majority of men (51) were White-not-of-Hispanic origin. Two men were Black-not-of-
Hispanic origin and three were classified as Other/mixed origin. Exactly one-half of the fathers held a bachelor’s degree with remaining educational levels ranging between attending high school (2%) and a doctoral degree (5%). All fathers reported being employed on a full-time basis. The majority of fathers (91%) reported being the biological parent of the target child. Four had adopted their child and one was living with the child but had not adopted the child. Fathers reported spending, on average, 4 hours per day (SD = 1.97) with their child, Monday through Friday. An increase in average number of hours spent each day on the weekend was reported: 9 hours (SD = 3.40) on Saturday and 9.40 (SD = 3.25) on Sunday.

Mothers were slightly younger than fathers with a mean age of 34.64 years (SD = 4.74) with a range between 22 and 45 years. As with fathers, the majority of mothers (54) were White-not-of-Hispanic origin. Two women were Black-not-of-Hispanic origin. Mothers appeared as well educated as fathers where 22 had completed a bachelor’s degree, nine had completed a master’s degree and four reported earning a professional or doctoral degree. A broader range of employment was found among mothers as 50 were employed full-time, four worked part-time, one worked part-time and attended school part-time, and one was a full-time student employed part-time. The majority of mothers (93%) were the biological parent of the target child and four had adopted their child. Mothers spent, on average, slightly more hours per weekday with the target child than fathers at 4.97 hours (SD = 1.29). A substantial increase was observed on weekends: 12.08 hours (SD = 2.32) on Saturday and 11.76 (SD = 2.20) on Sunday. Overall, mothers reported spending more hours per day with their children than fathers.

Target children ranged in age between 34 and 64 months, with a mean of 49 months
Table 2

Demographic Characteristics of Fathers and Mothers

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Fathers (n = 56)</th>
<th>Mothers (n = 56)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attended high school</td>
<td>1</td>
<td>1.8</td>
</tr>
<tr>
<td>High school graduate</td>
<td>9</td>
<td>16.1</td>
</tr>
<tr>
<td>Attended college</td>
<td>4</td>
<td>7.1</td>
</tr>
<tr>
<td>Attended technical school</td>
<td>1</td>
<td>1.8</td>
</tr>
<tr>
<td>Associate's degree</td>
<td>3</td>
<td>5.4</td>
</tr>
<tr>
<td>Bachelor degree</td>
<td>28</td>
<td>50.0</td>
</tr>
<tr>
<td>Master degree</td>
<td>6</td>
<td>10.6</td>
</tr>
<tr>
<td>Doctoral or professional degree</td>
<td>3</td>
<td>5.4</td>
</tr>
<tr>
<td>Refused</td>
<td>1</td>
<td>1.8</td>
</tr>
<tr>
<td>Employment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-time</td>
<td>56</td>
<td>100.0</td>
</tr>
<tr>
<td>Part-time</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Part-time work &amp; student</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Full-time student &amp; part-time work</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black-not-Hispanic origin</td>
<td>2</td>
<td>3.6</td>
</tr>
<tr>
<td>White-not-Hispanic origin</td>
<td>51</td>
<td>91.1</td>
</tr>
<tr>
<td>Other/mixed origin</td>
<td>3</td>
<td>5.4</td>
</tr>
<tr>
<td>Relationship with child</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biological parent</td>
<td>51</td>
<td>91.1</td>
</tr>
<tr>
<td>Adoptive parent</td>
<td>4</td>
<td>7.1</td>
</tr>
<tr>
<td>Stepchild, not legally adopted</td>
<td>1</td>
<td>1.8</td>
</tr>
<tr>
<td>Characteristics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Age in years</td>
<td>36.24</td>
<td>5.26</td>
</tr>
<tr>
<td>Mean Hours per weekday with child</td>
<td>4.11</td>
<td>1.97</td>
</tr>
</tbody>
</table>

(Table continues)
Table 2 (continued)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours on Saturday with child</td>
<td>9.00</td>
<td>3.40</td>
<td>3-16</td>
<td>12.08</td>
<td>2.32</td>
<td>6-20</td>
</tr>
<tr>
<td>Hours on Sunday with child</td>
<td>9.40</td>
<td>3.25</td>
<td>3-16</td>
<td>11.76</td>
<td>2.20</td>
<td>6-16</td>
</tr>
</tbody>
</table>

(SD = 8.75) (Table 3). Girls and boys were represented in equal numbers (28 each). The majority of children were White-not-of-Hispanic origin (89%). In two cases the mother and the father disagreed on the race of the child (in each case, parents were of different races and the child was reported as biological by each parent); therefore, the child was classified as Other/mixed origin.

Experience in parenting was one focus of this study; consequently, the number of children in the family was of interest. While parents of only children and parents of second- and third-born children were sought for this study, surveys were distributed inadvertently by the director in several centers to parents of first-born children. It was decided to expand the study to include these parents and educators. Seventeen children were classified as only children. Target children who had siblings included 13 first-born children and 26 second- or third-born children. The total number of children in the family ranged from one to three with a mean of 1.80 (SD = .62). Two children had asthma. Two children were identified with speech problems. One child was identified with ventral septum defect of the heart and one child was identified with attention deficit hyper activity disorder. One case was removed in which the mother, the father, and the educator identified the target child as formally diagnosed
Table 3

Demographic Characteristics of Target Children

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>28</td>
<td>50.0</td>
</tr>
<tr>
<td>Female</td>
<td>28</td>
<td>50.0</td>
</tr>
<tr>
<td>Race*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>2</td>
<td>3.6</td>
</tr>
<tr>
<td>Black-not-Hispanic origin</td>
<td>1</td>
<td>1.8</td>
</tr>
<tr>
<td>White-not-Hispanic origin</td>
<td>50</td>
<td>89.2</td>
</tr>
<tr>
<td>Other/mixed origin</td>
<td>3</td>
<td>5.4</td>
</tr>
<tr>
<td>Birth order</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Only child</td>
<td>17</td>
<td>30.4</td>
</tr>
<tr>
<td>First-born</td>
<td>13</td>
<td>23.2</td>
</tr>
<tr>
<td>Second-born</td>
<td>23</td>
<td>41.0</td>
</tr>
<tr>
<td>Third-born</td>
<td>3</td>
<td>5.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (months)</td>
<td>49.00</td>
<td>7.95</td>
<td>34 - 64</td>
</tr>
</tbody>
</table>

with a disability. The remaining cases were inconsistently identified by the three parties and not judged to be disabling mentally. These cases remained in the study, as did one child who was a member of a dizygotic twin pair.

The target child’s early childhood educator, as identified by the parents, was included in the study (n = 30). All responding educators were female and employed in center-based care (Table 4). The highest educational level attained by the sample was a bachelor’s degree (50%) while the lowest was high school graduate (10%). The majority was of White-not-Hispanic origin (96.7%). Educators reported an average of 8.8 years working with 3- and 4-
Table 4

**Demographic Characteristics of Early Childhood Educators**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school graduate</td>
<td>3</td>
<td>10.0</td>
</tr>
<tr>
<td>Attended college</td>
<td>8</td>
<td>26.7</td>
</tr>
<tr>
<td>Associate degree</td>
<td>4</td>
<td>13.3</td>
</tr>
<tr>
<td>Bachelor degree</td>
<td>15</td>
<td>50.0</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black-not-Hispanic origin</td>
<td>1</td>
<td>3.3</td>
</tr>
<tr>
<td>White-not-Hispanic origin</td>
<td>29</td>
<td>96.7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>33.70</td>
<td>10.74</td>
<td>20 - 58</td>
</tr>
<tr>
<td>Years caring for 3- and 4-year-olds</td>
<td>8.88</td>
<td>6.60</td>
<td>1 - 29</td>
</tr>
<tr>
<td>Number of own children</td>
<td>.97</td>
<td>1.25</td>
<td>0 - 4</td>
</tr>
<tr>
<td><strong>Target child</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hours per week caring for child</td>
<td>40.43</td>
<td>6.14</td>
<td>25 - 55</td>
</tr>
<tr>
<td>Months child in your care</td>
<td>11.83</td>
<td>9.46</td>
<td>1 - 48</td>
</tr>
</tbody>
</table>
year-old children (SD = 6.60) and an average of 11.83 months (SD = 9.46) caring for the target child. Over half of the educators (16) did not have children of their own. Educators with children (14) had between one and four children.

In summary, the sample overwhelmingly represented the current dual earner arrangement within couples highly typical of families in the 1990's (Hernandez, 1997). Sample characteristics are critical, Hernandez emphasizes, because parents who work may have different parenting strategies and spend less time with their children than parents in households where one parent remains home with the child(ren). Although small in numbers, Blacks were slightly over-represented in the sample at 3.5% compared to 1.73% in the overall population according to 1990 estimates for the State of Iowa (U.S. Bureau of the Census, 1990). The sample was also skewed positively in terms of income and education. Approximately 87% of couples reported an income of $40,001 and above and over half of mothers and fathers each reported holding a bachelor degree or higher compared to 16.9% of the state which held a bachelor’s degree or higher (U.S. Bureau of the Census, 1990).

Measures

Beliefs Regarding Influence of Developmental Agents

The Influence on Preschool Competency Scale was designed by the principal investigator to measure mothers’, fathers’, and early childhood educators’ beliefs regarding the relative degree of influence they and other developmental agents have on a preschool child’s competency. Preliminary work was conducted to identify competencies parents of preschoolers believed were important for their children to possess by the time their child was 5-years-old (before kindergarten entrance) and to ascertain content validity for each
competency desired. Content validity attempts to demonstrate that the indicators of the latent variable "reflect the concept's specific domain of content" (Sabetelli & Waldron, 1995, p. 970). While it is difficult to substantiate that the items in the instrument truly represent the universe of items present on that concept (no statistical test exists), it is a critical element in the reduction of measurement error. It represents agreement, relative to time, among scientists and informants regarding what constitutes that construct (Bollen, 1989).

The process of content validity began with a qualitative approach. Over a period of four weeks, the author conducted ethnographic interviews with fathers and mothers and one focus group with parents of diverse ages of children. Mothers and fathers were asked to complete the following phrase: "As a parent of a preschooler, I want my child to do well in or be competent at". For example, parents listed characteristics such as "understanding their emotions," "communicating clearly to others," "using the toilet by himself," and "riding a bicycle." A list of statements was prepared synthesizing statements that were conceptually the same but worded differently. The prepared list of statements was returned to the persons with whom interviews were held as well as presented to additional parents to check accuracy of the statements, ambiguity, and content. Statements were adjusted, deleted, or clarified based upon the responses of these parents.

Additional competencies were added to the list provided by the parents. The principal investigator, also a parent of two children in early childhood and an experienced early childhood educator, added competencies drawn from conferences with parents of preschoolers as well as additional competencies focusing specifically on cognitive development, a focus of this study. Individual statements were grouped together as indicators
of separate underlying competencies on a logical intuitive basis by the researcher and two graduate students in child development. The Q-sort of Maternal Beliefs (Iverson & Segal, 1992; Segal, 1985) and Parenting Goals and Attitudes (Van Zutphen, 1989) instruments were used as a guide in naming the underlying factor represented by the indicators.

The Influence on Preschool Competency Scale was developed using three cognitive/problem-solving oriented latent competencies and three social-emotional oriented latent competencies selected from the list of competencies developed in preliminary analysis: have curiosity with a desire to learn, perform academic “school-related skills,” use reasoning and problem-solving skills, get along with other children, show emotional control, and be helpful and considerate. This list of competencies was nearly identical to the characterization of competent children by homeless mothers in the North Central United States (Durbyrow, Masten, & Sesma, 1998).

Each competency was exemplified for parents and educators (Table 5). Participants were asked to first rate the preschool (target) child’s skill on the identified competency using a Likert scale from 1 to 5 representing increasing skill. Following this question for each competency, a series of closed-ended questions was listed adapted from Himelstein, et al. (1991). Each question asked for one’s belief regarding the relative degree of influence each of the following agents had on the child’s development within that competency: biology/genetics, father’s parenting behavior, mother’s parenting behavior, early childhood educator’s caregiving, peers at child care, siblings in the home, and the child’s own effort. Each question had a 5-point Likert scale as follows: 1 = no influence; 2 = a little influence; 3 = some influence; 4 = a lot of influence; 5 = completely influences.
Table 5

**Child Competencies and Indicators**

<table>
<thead>
<tr>
<th>Competency</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>A sense of curiosity with a desire to learn</td>
<td>* being interested in how and why things happen</td>
</tr>
<tr>
<td>(curiosity)</td>
<td>* exploring his/her own environment</td>
</tr>
<tr>
<td></td>
<td>* being curious about many things</td>
</tr>
<tr>
<td>Get along with other children</td>
<td>* being a friend to others</td>
</tr>
<tr>
<td>(social interaction)</td>
<td>* sharing his/her things</td>
</tr>
<tr>
<td></td>
<td>* handling conflicts verbally</td>
</tr>
<tr>
<td></td>
<td>* making friends with others</td>
</tr>
<tr>
<td>Perform academic skills or “school-type” activities (academics)</td>
<td>* naming colors</td>
</tr>
<tr>
<td></td>
<td>* counting</td>
</tr>
<tr>
<td></td>
<td>* identifying/spelling his/her first name</td>
</tr>
<tr>
<td>Show emotional control</td>
<td>* showing emotions appropriately</td>
</tr>
<tr>
<td>(emotional control)</td>
<td>* handling disappointments</td>
</tr>
<tr>
<td></td>
<td>* identifying his/her emotions</td>
</tr>
<tr>
<td>Show helpfulness and consideration for others</td>
<td>* being polite</td>
</tr>
<tr>
<td>(helpfulness)</td>
<td>* using good manners</td>
</tr>
<tr>
<td></td>
<td>* being kind to others</td>
</tr>
<tr>
<td></td>
<td>* showing empathy for others</td>
</tr>
<tr>
<td></td>
<td>* being cooperative</td>
</tr>
<tr>
<td>Use reasoning and problem-solving skills (reasoning)</td>
<td>* anticipating consequences</td>
</tr>
<tr>
<td></td>
<td>* thinking things through to solve a problem</td>
</tr>
<tr>
<td></td>
<td>* using common sense</td>
</tr>
</tbody>
</table>

Reliability was calculated for the instrument by developmental agent across the six competencies separately for each participating group. Cronbach’s alphas ranged from .62 to .91 (Table 6) and were considered at an acceptable level for further analysis within the study (Nunnally, 1978).
Table 6

Reliabilities for Developmental Agents by Group

<table>
<thead>
<tr>
<th>Agents</th>
<th>Fathers (n = 56)</th>
<th>Mothers (n = 56)</th>
<th>Early Childhood Educators (n = 30)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology/Genetics</td>
<td>.87</td>
<td>.85</td>
<td>.85</td>
</tr>
<tr>
<td>Father</td>
<td>.78</td>
<td>.63</td>
<td>.78</td>
</tr>
<tr>
<td>Mother</td>
<td>.75</td>
<td>.65</td>
<td>.76</td>
</tr>
<tr>
<td>Early childhood educator</td>
<td>.77</td>
<td>.70</td>
<td>.74</td>
</tr>
<tr>
<td>Peers in child care</td>
<td>.79</td>
<td>.83</td>
<td>.79</td>
</tr>
<tr>
<td>Siblings in home</td>
<td>.82</td>
<td>.88</td>
<td>.91</td>
</tr>
<tr>
<td>Child’s own effort</td>
<td>.86</td>
<td>.85</td>
<td>.86</td>
</tr>
</tbody>
</table>

Note: ^Cronbach’s alpha used to calculate reliabilities. "Calculated using the agent’s score on each of the six competencies.

Parental Efficacy and Control

Parental efficacy and parental control were measured in the study using the Parent Locus of Control Scale (Campis, Lyman, & Prentice-Dunn, 1986). These constructs are included because it has been suggested that feelings of self-efficacy, defined as "the conviction that one can successfully execute the behavior required to produce outcomes" (Bandura, 1977, p. 193) relate to the belief that outcomes are related to one’s actions (Bandura, 1977). Measures of control and efficacy were included to examine divergent validity among constructs; that is, the extent of shared variance between parents’ belief regarding the degree of influence of their own parenting on their child, parental control, and parental efficacy.
Fathers and mothers were each asked to complete two of the five original instrument subscales included in the instrument: Parental Efficacy (#1) and Parent Control of Child Behavior (#5).

Each subscale consisted of 10 question-indicators of the concept evaluated. (Refer to Appendix for list of items in each scale.) Responses were made on a 5-point Likert format from 1 (strongly agree) to 5 (strongly disagree). For purposes of this study, questions were recoded such that high scores reflect high feelings of efficacy and high feelings of control. Cronbach’s alpha for efficacy was .72 for fathers and .78 for mothers. Alpha for control was .79 for fathers and .77 for mothers.

**Philosophical Beliefs Regarding Child Development**

A measure of educators’ general philosophical perspective regarding how young children learn was included to ascertain if early childhood educators’ general epistemological orientation may be related to the degree of influence the teacher believes he/she possesses on children’s skill achievement. Educators were asked to respond to the 30-question Beliefs About Development Scale (Martin, 1983). The scale was designed originally to assess mothers’ beliefs about the nature of children and how children learn and change over time (see Appendix). The original scale was administered to mothers of 50 kindergartners in rural Wisconsin. The reader was presented with a situation, for example, “What makes two preschool children friends?” and then asked to rank in order three possible explanations from most preferred explanation to least preferred explanation. Each explanation represented one general philosophical orientation: learning, maturation, and cognitive-developmental. Reported reliabilities were .81, .85, and .74 for each scale respectively. The instrument was
adapted for this study by replacing parental references to "adults" where appropriate.

Because this sample was not large enough to replicate the principal components analysis in the original study, the average score over the 30 rankings for each orientation was calculated. For each educator, the lowest averaged score across the three orientations represented the most preferred philosophical approach to development and learning. In this study, exactly half of the educators identified the cognitive-developmental approach as the most preferred, 43.3% identified the learning perspective as most preferred, and 6.7% had equal mean scores for cognitive-developmental and learning orientations. No educator identified the maturational approach as the most preferred.

Cross-tabular analyses revealed that of the educators with a bachelor's degree (n = 15), nine preferred the cognitive-developmental approach and six preferred the learning approach. Among high school graduates and those with some college (n = 11), only four preferred the cognitive-developmental approach. Five educators preferred the learning approach and two were split equally between the learning and the cognitive-developmental approaches. Among educators with associate's degrees (n = 4), two preferred the cognitive developmental approach and two preferred the learning approach. Consequently, educators with higher levels of formal education preferred the cognitive-developmental approach, which characterizes development as a process internal to the child; the child takes an active role integrating his/her existing knowledge with his/her environment (Martin & Johnson, 1992).

**Demographic Information**

Each participant was asked to provide his/her gender (coded as 1 = male and 2 = female), age in years, ethnicity (beginning with 1 = Asian/Pacific Islander through 6 =
Other/mixed race; refer to instrument in Appendix), highest degree earned, a description of occupation, and employment status (beginning with 1 = full time; refer to instrument in Appendix). Each parent was asked to provide their marital status (1 = married, 2 = unmarried), the range in which their estimated combined annual family income fell, hours per week his/her child received out-of-home-care, his/her biological relationship with the child, number of children in the family and birth order, and the estimated number of hours he/she spends with the target child on weekdays, Saturday, and Sunday. Parents provided the following information on their child: gender (1 = male and 2 = female), birth date, ethnicity, and presence of any formally diagnosed disabilities.

Each educator was asked to give the number of years he/she has worked with 3- and 4-year-old children, the number of months he/she had cared for the target child, the presence of formally diagnosed disabilities or diseases, and the number of children he/she had of his/her own.

Procedure

Parents and educators were recruited for this study through child care centers in 10 Central Iowa counties. This area covered rural and urban Iowa. A list of child care centers and preschools was acquired from the Iowa Department of Human Services (DHS). With assistance from DHS, all centers providing full-day child care were identified in each county and numbered sequentially. One county was without a child care center providing full-time care. Because Kontos et al. (1983) found that staff perception of parents' child-rearing behavior was moderated by type of center (Head Start, preschool, day care) Head Start programs were excluded from the study. Out of 172 centers, 50 centers were identified

Each center director was sent a letter explaining the study and inviting the center’s participation (see Appendix for all instruments and correspondence). The study was entitled “The Growing Child” project for ease of identification with parents, center directors, and center faculty. A Letter of Consent to Participate and a sealable, self-addressed, stamped return envelope was included with each letter. Directors were contacted by telephone by the principal investigator approximately one week after the letter was sent. Further explanation was given and a decision to participate was requested. Each was asked to return the Letter of Consent indicating their decision.

Directors were asked to select randomly two families with only one child and two families in which the preschool child was the younger sibling. A modified table of random numbers was provided to assist in the selection of families. Additionally, a limit of four couples per educator working with 3- and 4-year-old children was established. The limit was established in order to minimize the amount of time required for participation by each teacher. Twenty-four centers agreed to distribute the surveys (48%) and 23 declined, offering one of the following explanations: lack of interest on part of faculty, director, or center board; no qualifying parents; or not a good time in the life of the center. Three centers did not respond to the letter or to telephone calls.

Surveys were packaged so that fathers and mothers were encouraged clearly to keep their responses separate and confidential until surveys were mailed. Within separate 9 by 12 inch envelopes, one for father and one for mother, a copy of the survey entitled “The Growing Child: A Survey of Fathers and Mothers About Parenting” was provided. The survey
included the Influence on Preschool Competency Scale, the two subscales from Parent Locus of Control Scale (Campis, et al., 1986) and demographic information. Surveys were designed following the Dillman (1978) method. Surveys were printed on both sides of the page on beige legal size paper, folded, and stapled in the center.

A letter explaining the study and inviting participation was included. Again, parents were instructed (in the letter and on the survey) to keep their responses confidential from one another until surveys were mailed. Each parent received a sealable, self-addressed, stamped return envelope to guarantee confidentiality and three Iowa State University Extension pamphlets on balancing work and family. Fathers and mothers received different pamphlet titles. The envelope for the father and the envelope for the mother were sealed and put together in a third 10 x 12 inch envelope along with the Parent Informed Consent form. The form requested parents to indicate whether or not they agree to have their child’s early childhood educator complete the Influence on Preschool Competency Scale on their child (target child). Parents were instructed to return the form with either the mother or father survey. All surveys were returned to The Growing Child project at Iowa State University.

At least two telephone calls were made to participating centers to check on receipt of surveys and to address questions. All center directors were sent thank you letters and a set of thank you letters to give to all parents to whom surveys had been distributed.

One hundred seventy-four complete packets were sent (348 surveys). All useable surveys received 70 days after the first letter of invitation was sent to center directors were included in the sample. The response rate included 56 mothers (32%) and 54 fathers (31%). Fifty-three couples participated (30%). Fifty-four couples gave permission to further contact
their child's educator (one couple completed the surveys but did not return the consent form and one family returned the consent form but not the surveys). A total of 52 father/mother couples from child care centers had usable data.

Thirty seven educators were sent packets which included the following: a letter explaining the project and inviting their participation, a copy of “The Growing Child: A survey of Early Childhood Educators Regarding Caregiving and Teaching,” a copy of “The Growing Child: A Survey of Early Childhood Educators Regarding Beliefs About Growth and Development,” a photocopy of the parent-signed Letter of Consent form, a sealable, self-addressed, stamped return envelope; and a copy of “Getting along: Things to do when I’m Angry” (curriculum materials on managing emotions for preschoolers designed by ISU extension specialists). All surveys were returned to The Growing Child project at ISU. Educators were instructed to destroy the Letter of Consent form once they identified the target child.

Forty-eight survey responses were received from 33 educators. Because several parents within the same center identified the same person as their child’s educator, multiple evaluations were received from several educators. Two educators (and the parent) were dropped from the analyses when one parent (spouse) failed to return his/her survey. A third educator and parents were removed because each party reported the child as formally diagnosed with a disability. When multiple evaluations by the same educator were received, the educator's response was removed on all cases but one (selected randomly) so that each educator was represented only once (n = 30).

Parents were recruited through the Child Development Laboratory School at Iowa
State University as well. All parents of preschoolers in the morning and afternoon classes in Lab A and in the morning only class in Lab B were given packets with surveys to complete in the same format as described above except the return envelope instructed the parent to take the survey to the central collection envelope in the child’s classroom. Thirty-seven packets were distributed, three to single parents (34 fathers and 37 mothers received surveys). Response rates were 65% for mothers (24 surveys) and 62% for fathers (21 surveys). Twenty-one complete sets in which both father and mother responded were received. The early childhood educator was not asked to complete a parallel survey on the child following the results of Kontos et al. (1983).

Only four father/mother couples met the criteria to be used in these analyses and were well within the range of demographic data in the center-based sample. The children were identified as receiving over 30 hours of out-of-home care between hours in preschool and hours at child care either before or after preschool. A total sample of 56 father/mother couples was achieved when these cases were added to the usable child care center parent surveys.
CHAPTER 4. RESULTS

The primary research questions guiding this study were: 1) what is the extent of influence mothers and fathers believe they exert on their child's competency relative to other developmental agents; 2) what is the extent of influence early childhood educators believe they exert on the child's competency relative to other developmental agents; 3) how do the beliefs about each other's influence compare across groups; and 4) do parents with more than one child rate their influence and the influence of genetics, siblings, and their own parenting differently than parents with one child? This study was designed to collect and analyze fathers', mothers', and educators' ratings on the influence of seven developmental agents theorized to affect the course of child development across six competencies in children.

Correlational analyses and mean comparisons, mainly repeated measures analyses of variance with covariates and related post hoc analyses, were used to address these questions. The first set of analyses examined correlations between demographic factors and ratings of influence of developmental agents within each group (fathers, mothers, and educators) as well as between groups. Fathers and mothers (n = 112) were examined separately from educators (n = 30). When fathers or mothers were correlated directly with educators, only the parents of the corresponding educator were used (n = 60); that is, parents whose identified educator did not respond and parents whose educator was assigned randomly to a different family (educators who returned surveys on several children were assigned randomly to only one family so that each educator was represented only once in the data analyses) were not included in these between group correlations.

The second set of analyses examined the differences in the average rating of influence
for each agent across the six competencies by fathers, mothers, and educators. Repeated measures multivariate analyses of covariance (MANCOVA) were performed with agent as the repeated measure. This would reveal parents' and educators' beliefs regarding the influence of one agent relative to another. For example, across all competencies, does the agent mother have a higher rating of influence relative to the agent peers or the agent father? It also allows examination of differences between groups. For example, across all competencies, is mothers' rating of educator significantly different from fathers' rating of educator? Again, mothers and fathers were analyzed separately from educators.

The third set of analyses examined the differences in the ratings of influence for each agent on each competency. Consequently, seven repeated measures MANCOVAs with competency as the repeated measure and corresponding post hoc analyses were conducted for fathers and mothers, one for each agent, and seven repeated measures MANCOVAs with corresponding post hoc analyses were conducted for educators, one for each agent.

These analyses allowed a closer look at each agent to examine the relative strength of that agent on each competency as compared to other competencies. For example, does the agent peer extend greater influence on academic-type competence rather than helpful competence; does the agent mother extend greater influence in social competence than in reasoning?

Differences between groups also can be examined. For example, is there a significant difference between mothers' rating of the sibling agent (sibling influence) on social competence and fathers' rating of the sibling agent (sibling influence) on social competence?

No study published to date has asked both fathers and mothers to evaluate the relative influence of each of these seven agents on all competencies combined or for each of the
separate competencies.

Fourth, direct comparisons between the ratings of mothers, fathers, and educators were performed using paired t-tests. These comparisons addressed questions such as whether mothers rate themselves significantly different than educators rate mothers. As explained previously, when parents were compared directly with educators, only the parents of the corresponding educators were included. Finally, one-way ANOVAs compared average ratings of each agent between parents of only, first-born, and second- or third-born children.

Correlations Among Demographics and Developmental Agents

Zero order correlations among demographic characteristics, mean ratings on each of the seven developmental agents, parent efficacy, and parent control were calculated in order to assess significant relationships between the agent ratings and other variables. Scores were calculated for each of the seven developmental agents by averaging ratings across the six competencies for each agent (biology/genetics, father, mother, early childhood educator, peers, siblings, and the child's own effort) within each group of respondents (fathers, mothers, and educators). Averaged scores also were created separately for fathers and mothers on parental efficacy ratings and parental control ratings. A high score represented a greater degree of influence by the agent or stronger feelings of efficacy or of control. Correlations were computed separately within each group and between groups.

Correlations for Fathers

Among the demographic factors, education was correlated significantly with both income and marital status ($r = .46, p < .001; r = -.45, p < .01$). Increasing levels of education corresponded with higher reported annual family income and marriage. Income was
correlated positively with the number of hours the child received care ($r = .37, p < .01$). The greater the income, the more hours of out-of-home care the child experienced. Paternal age was correlated with income ($r = .29, p < .05$) and marital status ($r = -.27, p < .05$).

Between demographic factors and mean ratings for each agent, the number of children in the family was related negatively to the rating for the agent peer ($r = -.27, p < .05$) and positively to the rating for the agent child's effort ($r = .34, p < .001$). No other significant correlations were found between agent scores and demographic characteristics.

Paternal control correlated positively with the mean rating for the agent child's effort ($r = .30, p < .05$). Efficacy had no significant relationship with any agent but was correlated with control ($r = .40, p < .01$). The more children in the family, the lower the sense of paternal efficacy ($r = -.27, p < .05$). Neither efficacy nor control was correlated with fathers' rating of their own influence.

Intercorrelations between the mean ratings for each developmental agent by group allowed an initial look at the relationship between one's own rating of influence and one's rating of other agents. Fathers' mean rating of their own influence was correlated both positively and strongly with their rating of mothers' influence, their rating of the early childhood educators' influence, and their rating of the child's own effort (Table 7). Fathers' ratings of mothers' influence and of educators' influence were correlated significantly as well as fathers' ratings of peers' influence and of educators' influence. Fathers' rating of peer influence also was correlated strongly with their rating of the influence of siblings in the home. Fathers' rating of the influence of genetics was correlated negatively with their rating of educators' influence. Overall, the higher fathers rated their own influence the higher they
Table 7

**Intercorrelations Between Mean Agent Ratings for Fathers and Mothers**

<table>
<thead>
<tr>
<th>Agent</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology/genetics</td>
<td>.03</td>
<td>.10</td>
<td>.02</td>
<td>-.29*</td>
<td>-.11</td>
<td>-.08</td>
<td>.06</td>
</tr>
<tr>
<td>Father</td>
<td>.07</td>
<td>.01</td>
<td>.91***</td>
<td>.54***</td>
<td>.17</td>
<td>.26</td>
<td>.30*</td>
</tr>
<tr>
<td>Mother</td>
<td>.03</td>
<td>.91***</td>
<td>.06</td>
<td>.47***</td>
<td>.06</td>
<td>.13</td>
<td>.32**</td>
</tr>
<tr>
<td>Early childhood educ.</td>
<td>-.03</td>
<td>.67***</td>
<td>.64***</td>
<td>.18</td>
<td>.36**</td>
<td>.27</td>
<td>.22</td>
</tr>
<tr>
<td>Peers in child care</td>
<td>.01</td>
<td>.26</td>
<td>.24</td>
<td>.23</td>
<td>.21</td>
<td>.51**</td>
<td>.05</td>
</tr>
<tr>
<td>Siblings in home</td>
<td>-.05</td>
<td>.52**</td>
<td>.41**</td>
<td>.28</td>
<td>.28</td>
<td>.38*</td>
<td>.22</td>
</tr>
<tr>
<td>Child’s own effort</td>
<td>.21</td>
<td>.41**</td>
<td>.44**</td>
<td>.30*</td>
<td>.23</td>
<td>.39*</td>
<td>.02</td>
</tr>
</tbody>
</table>

**Note:** Coefficients above the diagonal are correlations between variables for fathers; coefficients below the diagonal are correlations between variables for mothers; and coefficients along the diagonal represent correlations between mother and father scores on the variables. *p < .05; **p < .01; ***p < .001

rated the influence of other adults in the environment and the influence of the child’s own effort and the lower genetics was marked as an influential factor on development.

**Correlations for Mothers**

Between demographic factors, education was correlated significantly with income ($r = .38$, $p < .01$) and marital status ($r = -.28$, $p < .05$) for mothers similar to fathers. Maternal age was correlated significantly with income ($r = .50$, $p < .001$), marital status ($r = -.39$, $p < .01$) and hours the child was in care ($r = .33$, $p < .05$). Income correlated also with hours in care ($r = .30$, $p < .05$) suggesting children with mothers earning higher incomes spend more time in out-of-home care.

Between demographic factors and mean ratings for each agent, the number of children in the family correlated significantly and negatively with mothers’ rating of the influence of
Efficacy and control were correlated for mothers (r = .47, p < .001); however, neither variable was related significantly to mothers' rating of their own influence. No other significant correlations were found.

Intercorrelations among mean ratings for each developmental agent for mothers revealed several similarities to the ratings by fathers (Table 7). Significant and strongly positive correlations were found between mothers' rating of their own influence and their rating of fathers' influence, of the educators' influence, and of the influence of the child's own effort. Unlike fathers, mothers' rating of themselves correlated positively with their rating of the influence of siblings in the home. Mothers' ratings of the fathers' influence correlated positively with their ratings of siblings' influence and with their ratings of the influence of the child's own effort. Mothers' rating of the influence of father correlated significantly with mothers' rating of the educator. Mothers were different from fathers in that no significant correlations appeared among ratings of genetics nor of peers in child care.

Correlations for Educators

Among demographic factors, the number of children the educator had of her own was correlated significantly with the age of the educator (r = .69, p < .001) and with years in child care (r = .36, p < .05). Age of educator was correlated positively with the number of years in child care (r = .74, p < .001).

Between demographic factors and the mean rating for each agent, educators' education was correlated negatively and significantly with the educators' rating of the influence of the peer agent (r = -.40, p < .05). The number of children the educator had of her own was correlated significantly with the educators' rating of the influence of the genetics agent (r =
.39, p < .05) and with their rating of the influence of the child's own effort (r = .38, p < .05).

Intercorrelations among mean ratings for each developmental agent for educators revealed a positive relationship between educators' rating of their own influence and their rating of the influence of the mother (Table 8). However, their self-rating was not correlated with their rating of fathers' influence. Rather, there was a strong and positive correspondence between educators' rating of fathers' influence and of mothers' influence that suggested educators viewed mothers' and fathers' influence as similar. Educators' rating of their own influence was correlated positively with their rating of influence of peers in child care. Educators' rating of the influence of siblings in the home was correlated strongly with their rating of the influence of peers suggesting the influence of peers and siblings were viewed as similar. The educators' rating of the influence of siblings in the home also were correlated strongly with their rating of the child's own effort. Finally, the higher the educator rated the influence of the mother, the higher they rated the influence of biology/genetics.

Correlations Between Fathers' and Mothers' Ratings of Agent Influence

Correlations between mothers' and fathers' ratings of the developmental agents revealed two significant relationships. Mothers' rating of the influence of the child's own effort was correlated positively with fathers' ratings of the influence of siblings (r = .43, p < .01). Mothers' rating of the influence of siblings was correlated significantly with fathers' rating of the influence of siblings (Table 7). Mothers and fathers showed no agreement on maternal influence or on paternal influence. Control for fathers and for mothers was correlated strongly (r = .56, p < .001).
Table 8

Intercorrelations Between Mean Agent Ratings for Early Childhood Educators

<table>
<thead>
<tr>
<th>Developmental Agent</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology/genetics</td>
<td>--</td>
<td>.19</td>
<td>.43*</td>
<td>.24</td>
<td>.23</td>
<td>-.04</td>
<td>.21</td>
</tr>
<tr>
<td>Father</td>
<td>--</td>
<td>.84***</td>
<td>.26</td>
<td>.04</td>
<td>.26</td>
<td>.31</td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td>--</td>
<td>.44*</td>
<td>.08</td>
<td>.18</td>
<td>.34</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early childhood educator</td>
<td>--</td>
<td>.52**</td>
<td>.06</td>
<td>.29</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peers in child care</td>
<td>--</td>
<td>.52*</td>
<td>.38*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Siblings in the home</td>
<td>--</td>
<td>.75***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child’s own effort</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: *p < .05; **p < .01; ***p < .001

Correlations Between Fathers’ and Early Childhood Educators’ Ratings of Agent Influence

Correlations between fathers’ and early childhood educators’ ratings of agent influence revealed three significant relationships. First, educators’ rating of the influence of the father and fathers’ ratings of their own influence were correlated positively ($r = .38, p < .05$). Second, educators’ rating of the influence of themselves correlated positively with fathers’ rating of the influence of the educator ($r = .39, p < .05$). Therefore, there is some agreement between educators’ view of fathers’ influence and fathers’ own perspective or belief about their influence as well as some agreement between educators’ view of their own influence and fathers’ perspective or belief about educators’ influence. Finally, educators’ rating of the influence of peers was correlated negatively with fathers’ rating of the influence of genetics ($r = -.40, p < .05$).
Correlations Between Mothers’ and Early Childhood Educators’ Ratings of Agent Influence

Correlations between mothers’ and educators’ ratings of each agent revealed one significant relationship. Mothers’ rating of the influence of the educator was correlated with the educators’ rating of their own influence ($r = .44, p < .05$). Therefore, some agreement was present between mothers and educators on the influence of educators but none between mothers and educators on the influence of mothers.

Repeated Measures Multivariate Analysis of Covariance

Comparison of Agents’ Influence Over All Competencies

Because the intercorrelations revealed differences between mothers, fathers, and educators in their rating of influence on respective developmental agents, repeated measures analysis of variance with covariates was selected to examine further the differences between mothers, fathers, and educators in their respective ratings of the relative degree of influence of each agent averaged across all competencies (the dependent variable). A 2 (parent gender) by 2 (child gender) by 6 (agent) repeated measures MANCOVA was calculated for fathers and mothers with parent and child gender as the between subject factors and agent as the within subject factor. The influence of siblings in the home was excluded from the analyses. Including families with more than one child in each analysis would reduce the sample size by approximately one-third for all analyses. The influence of siblings was analyzed separately since the influence of siblings only applies to families with two or more children. A 2 (parent gender) by 2 (child gender) by 2 (birth order) was employed for the influence of siblings analyses for fathers and mothers.

Two covariates were selected for the MANCOVA analyses based upon the
correlational analyses: the number of children in the family and the parents' rating of parental control. Level of education was selected as a covariate as well to serve as the proxy variable for socio-economic status (SES). Education, mother and father income, and number of hours worked were each found to predict the educational attainment of children (Hill & Duncan, 1987). Education has served as a covariate for SES in previous studies of parental beliefs and attitudes (e.g., Howes & Olenick, 1986; McGillicuddy-DeLisi, 1985). Results for covariates were indented within each table under Between Subjects Effects.

A separate 2 (child gender) by 6 (agents) repeated measures MANCOVA was conducted for educators with child gender as the between subjects factor and agent as the within subjects factor. A 2 (child gender) by 2 (birth order) ANCOVA design was employed for the influence of siblings analysis for educators. Based upon the observed correlations and the research of Whitebook et al. (1990) and Kontos et al. (1983), educator's education and educator's number of own children were selected as covariates to be included in further analyses. Results for covariates were indented within each table under Between Subjects Effects.

Post hoc paired t-tests with all possible pairwise comparisons between agents were calculated for significant main or interaction effects. For example, the relative mean influence of genetics as compared to the relative mean influence of peers may be assessed. In cases where both an interaction and a main effect were present, the interaction term took precedence. The Bonferroni correction was used to adjust alpha for the number of comparisons made (Norusis, 1992).

Averaged univariate F tests were reported for within subjects main and interaction
effects. Averaged tests adjust the levels of significance for the number of comparisons being made (Norusis, 1992). In order to use the averaged univariate approach, one assumption was examined. The variances of transformed variables need to be homogeneous and the covariances to be zero (Norusis, 1992). This assumption was tested by the Mauchly Sphericity test with a Chi-square statistic. Significance of the test statistic would indicate heterogeneity within variances and/or covariance greater than zero. In the case of significance, the degrees of freedom for the F statistic can be corrected using the Greenhouse-Geisser epsilon. While characterized as being "overly conservative, especially for small sample sizes" (Norusis, 1992), it minimizes the possibility of making a Type 1 error (false positive conclusion). In the presence of a significant Chi-square, p values associated with the Greenhouse-Geisser epsilon correction were used to determine significance.

The inclusion of between subjects factors necessitates a second assumption be examined: homogeneous variance/covariance for the transformed variables for each repeated occasion between levels of the between subjects factor (McCall & Appelbaum, 1973, p. 402). This assumption, Homogeneity of Dispersion Matrices, uses a Chi-square test statistic as well. A nonsignificant Chi-square suggests matrices are homogeneous.

The inclusion of covariates in the model necessitated the testing for equal slopes among the groups (parent gender and child gender). This test was performed separately for parents and for educators with their respective covariates. Non-significance of the interaction terms between the covariate and the groups suggests the slopes of the regression lines to be the same between the groups (Norusis, 1992). ANCOVA procedure was used to test this assumption with the Bonferroni correction for alpha (.05/42 = alpha ≤ .001). Only one
interaction, child gender by educational level of parent on the mother agent, reached significance ($p = .001$); however, upon closer inspection of the means, no consistent pattern emerged suggesting the finding may be an artifact of the data set. A similar analysis was conducted for educators testing equality of slopes for the group child gender and the covariate educator’s number of own children and educator’s education. No significant interactions were found.

Means and standard deviations for the influence of each developmental agent in each competency and across all competencies are presented separately for fathers, mothers, and educators in Table 9. Means and standard deviations for each developmental agent in boys and girls in each competency and across all competencies as rated by mothers and fathers are presented in Table 10.

**Fathers and mothers**

The 2 (parent gender) by 2 (child gender) by 6 (agent) repeated measures MANCOVA results indicated no between subjects effect for parent gender or for child gender and no interaction effect (Table 11). There was no significant difference between the ratings of mothers and fathers nor was there significant difference between boys and girls.

A significant main effect for the within subjects factor, agent, was present $F(5, 535) = 79.05, p < .001$.

Paired t-tests analyses using the Bonferroni correction ($.05/15 = alpha < .003$) revealed the following relationships. Mothers and fathers rated the influence of the father agent higher than the influence of genetics ($t(111) = 10.24, p < .001$), higher than the influence of peers ($t(111) = 13.62, p < .001$), and higher than the influence of educators
Table 9

Developmental Agent Means (and Standard Deviations)

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<th>Academic</th>
<th>Emotional Control</th>
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<td>3.67 (.61)</td>
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<td>3.75 (.51)</td>
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<td>3.75 (.55)</td>
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<td>3.73 (.74)</td>
<td>3.70 (.75)</td>
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<td></td>
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<td>3.43 (.57)</td>
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Table 10

Developmental Agent Means (and Standard Deviations) by Child Gender for Parents Only

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<td>Academics</td>
<td>Emotional Control</td>
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Table 11

MANCOVA for Parent Gender, Child Gender, and Parents' Ratings of Agents' Influence Over All Competencies

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<td>.24</td>
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<td>.66</td>
<td>.167/.01</td>
</tr>
<tr>
<td>Child Gender (CG)</td>
<td>.21</td>
<td>1</td>
<td>.58</td>
<td>.150/.01</td>
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<tr>
<td>PG x CH</td>
<td>.00</td>
<td>1</td>
<td>.01</td>
<td>.034/.00</td>
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<td><strong>MS_E</strong></td>
<td>37.49</td>
<td>104</td>
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<th>Power/Eta²</th>
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<tr>
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<td></td>
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</tr>
<tr>
<td>Agent (A)</td>
<td>61.15</td>
<td>5</td>
<td>79.05***</td>
<td>1.00/.43</td>
</tr>
<tr>
<td>A x PG</td>
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<td>5</td>
<td>1.16</td>
<td>.416/.01</td>
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<tr>
<td>A x CG</td>
<td>1.04</td>
<td>5</td>
<td>.246</td>
<td>.475/.01</td>
</tr>
<tr>
<td>A x PG x CG</td>
<td>.25</td>
<td>5</td>
<td>.32</td>
<td>.132/.00</td>
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<td><strong>MS_E</strong></td>
<td>82.77</td>
<td>535</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: ¹Values enclosed in parentheses represent standardized Beta. F values for covariates were obtained by squaring the t-value.
Homogeneity of Dispersion Matrices: χ² (63, N = 111) = 81.52, p > .05.
Mauchly Sphericity Test: χ² (14, N = 111) = 295.83, p < .001.
*p < .05; **p < .01; ***p < .001
The influence of the mother agent was rated higher than the influence of genetics \( t(111) = -10.58, p < .001 \), higher than the influence of peers \( t(111) = 13.97, p < .001 \), and higher than the influence of the educator \( t(111) = 4.99, p < .001 \).

The influence of educator, as rated by mothers and fathers, was significantly higher than the influence of genetics \( t(111) = -7.22, p < .001 \) and higher than the influence of peers \( t(111) = -11.45, p < .001 \). Finally, the influence of the child's own effort was rated as significantly higher than the influence of genetics \( t(111) = 9.62, p < .001 \) and higher than the influence of peers \( t(111) = 11.74, p < .001 \).

For the separate ANCOVA analysis for the agent sibling (Table 12), a three-way interaction was found between birth order of child, child gender, and parent gender \( F(1, 66) = 5.30, p < .05 \). Independent t-tests for the three-way interaction on the influence of siblings revealed fathers of daughters rated the influence of siblings as greater for second- or third-born girls as compared to first born girls \( t(18) = -3.44, p < .01 \). No significant differences were found for fathers of sons. Mothers of sons, however, rated the influence of siblings as greater for second- or third-born boys as compared to first born boys \( t(17) = -2.57, p < .05 \). No significant differences were found for mothers of daughters.

**Early Childhood Educators**

The 2 (child gender) by 6 (agent) repeated measures MANCOVA results indicated no between subjects effect for the factor child gender (Table 13). There was no significant difference between educators of boys and educators of girls.

A significant main effect for the within subjects factor, agent, was present \( F(5, 140) = 8.89, p < .001 \).
### Table 12

**ANCOVA for Sibling Agent Influence Among Fathers and Mothers**

<table>
<thead>
<tr>
<th>Source</th>
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<th>F</th>
<th>Power/Eta²</th>
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</thead>
<tbody>
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<td>Regression</td>
<td>1.34</td>
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<td>2.12</td>
<td>.517/.09</td>
</tr>
<tr>
<td>Education*</td>
<td>(.04)</td>
<td>1</td>
<td>2.24</td>
<td>.313/.33</td>
</tr>
<tr>
<td>Number of children*</td>
<td>(-.20)</td>
<td>1</td>
<td>1.42</td>
<td>.215/.02</td>
</tr>
<tr>
<td>Control*</td>
<td>(-.11)</td>
<td>1</td>
<td>1.13</td>
<td>.183/.02</td>
</tr>
<tr>
<td>Birth Order (BO)</td>
<td>2.63</td>
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<td>12.51*</td>
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<td>Child Gender (CG)</td>
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<td>1</td>
<td>.22</td>
<td>.049/.00</td>
</tr>
<tr>
<td>Parent Gender (PG)</td>
<td>.23</td>
<td>1</td>
<td>1.07</td>
<td>.178/.12</td>
</tr>
<tr>
<td>BO x CG</td>
<td>.04</td>
<td>1</td>
<td>.17</td>
<td>.051/.00</td>
</tr>
<tr>
<td>BO x PG</td>
<td>.00</td>
<td>1</td>
<td>.01</td>
<td>.036/.00</td>
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<td>PG x CG</td>
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<tr>
<td>BO x CG x PG</td>
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<td>1</td>
<td>5.30*</td>
<td>.618/.07</td>
</tr>
<tr>
<td><strong>MSₑ</strong></td>
<td>13.90</td>
<td>66</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Values enclosed in parentheses represent standardized Beta. F values for covariates were obtained by squaring the t-value.

R-Squared = .33  
Adjusted R-Squared = .23

*p < .05; **p < .01; ***p < .001
Table 13

**MANCOVA for Child Gender and Educators' Ratings of Agents' Influence Over All Competencies**

<table>
<thead>
<tr>
<th>Source</th>
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<th>df</th>
<th>F</th>
<th>Power/Eta²</th>
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</thead>
<tbody>
<tr>
<td><strong>Between Subjects Effects</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Regression</td>
<td>3.09</td>
<td>2</td>
<td>2.61</td>
<td>.473/.17</td>
</tr>
<tr>
<td>Education¹</td>
<td>(.02)</td>
<td>1</td>
<td>.27</td>
<td>.058/.01</td>
</tr>
<tr>
<td>Number of children²</td>
<td>(.11)</td>
<td>1</td>
<td>5.21*</td>
<td>.591/.17</td>
</tr>
<tr>
<td>Child Gender (CG)</td>
<td>.23</td>
<td>1</td>
<td>.39</td>
<td>.077/.12</td>
</tr>
<tr>
<td>MSE</td>
<td>15.34</td>
<td>26</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Within Subjects Effects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agent (A)</td>
<td>8.11</td>
<td>5</td>
<td>8.89***</td>
<td>1.00/.24</td>
</tr>
<tr>
<td>A x CG</td>
<td>.94</td>
<td>5</td>
<td>1.03</td>
<td>.359/.04</td>
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</tbody>
</table>

Note: *Values enclosed in parentheses represent standardized Beta. F values for covariates were obtained by squaring the t-value.

Homogeneity of Dispersion Matrices: χ² (21, N = 30) = 39.20, p < .01.

Mauchly Sphericity Test: χ² (14, N = 30) = 53.31, p < .001.

*p < .05; **p < .01; ***p < .001
Paired t-tests analyses using the Bonferroni correction (.05/15 = alpha ≤ .003) revealed the following relationships. Educators rated the influence of the mother higher than the influence of genetics (t (29) = -3.70, p < .003) and higher than the influence of peers (t (29) = 3.53, p < .003). The influence of the child’s own effort was rated higher than the influence of genetics (t (29) = 4.07, p < .001) and higher than the influence of peers (t (29) = 5.53, p < .001). Finally, educators rated their own influence higher than the influence of peers in child care (t (29) = -4.23, p < .001). No significant mean difference was found between the educators’ rating of the influence of mothers and the influence of fathers. Educators did not rate their own influence as significantly different than the influence of fathers or the influence of mothers. Finally, educators did not rate the influence of fathers as significantly different than the influence of genetics or peers.

Within the separate ANCOVA analysis for the agent sibling, no main or interaction effects emerged (Table 14).

Comparison of Each Agent’s Influence on Each of the Six Competencies

Further examination of the influence of each developmental agent as rated by the parents was conducted using a 2 (parent gender) by 2 (child gender) by 6 (competency) MANCOVA with the repeated measures on the last factor (competency). Each developmental agent was addressed separately; consequently, seven analyses were conducted. A 2 (child gender) by 6 (competency) MANCOVA design with repeated measures on the last factor was used to analyze the responses of the early childhood educators. Again, each developmental agent was analyzed separately. For example, the relative influence of genetics can be assessed by examining mean differences in rating of genetics’ influence on curiosity.
Table 14

**ANCOVA for Sibling Agent Influence Among Educators**

<table>
<thead>
<tr>
<th>Source</th>
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<th>F</th>
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</thead>
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<td>.74</td>
<td>.147/.11</td>
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<td>Education(^a)</td>
<td>(.15)</td>
<td>1</td>
<td>.76</td>
<td>.144/.06</td>
</tr>
<tr>
<td>Number of children(^a)</td>
<td>(.21)</td>
<td>1</td>
<td>1.26</td>
<td>.178/.10</td>
</tr>
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<td>Birth Order (BO)</td>
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<td>1</td>
<td>.21</td>
<td>.066/.02</td>
</tr>
<tr>
<td>Child Gender (CG)</td>
<td>.46</td>
<td>1</td>
<td>.85</td>
<td>.148/.07</td>
</tr>
<tr>
<td>BO x CG</td>
<td>2.30</td>
<td>1</td>
<td>4.24</td>
<td>.473/.26</td>
</tr>
<tr>
<td>MS_E</td>
<td>6.51</td>
<td>12</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** \(^a\)Values enclosed in parentheses represent standardized Beta. F values for covariates were obtained by squaring the t-value.

R-Squared = .43

Adjusted R-Squared = .19

\(^*p < .05; \**p < .01; \***p < .001

competence versus its influence on academic competence. Post hoc analyses were conducted as explained in the previous section. The Bonferroni correction for number of comparisons was used (.05/15 = alpha < .003).

**Fathers and Mothers**

**Genetics.** The MANCOVA results indicated no between subjects main effect for parent gender or for child gender and no interaction effect (Table 15).

A significant within subjects main effect for competency, \(F(5, 530) = 14.85, p < .01\), and for the interaction between parent gender and competency, \(F(5, 530) = 4.29, p < .05\),
Table 15

MANCOVA for Genetics Among Fathers and Mothers

<table>
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<td>.56</td>
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<td>Number of children*</td>
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<td>.38</td>
<td>.171/.01</td>
</tr>
<tr>
<td>Control*</td>
<td>(.09)</td>
<td>1</td>
<td>.38</td>
<td>.171/.01</td>
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<td>Parent Gender (PG)</td>
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<td>.00</td>
<td>.033/.00</td>
</tr>
<tr>
<td>Child Gender (CG)</td>
<td>.10</td>
<td>1</td>
<td>.04</td>
<td>.041/.00</td>
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<td>PG x CH</td>
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<td>1</td>
<td>.00</td>
<td>.033/.00</td>
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<td><strong>Within Subjects Effects</strong></td>
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<td></td>
<td></td>
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<tr>
<td>Competency (C)</td>
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<td>5</td>
<td>9.42***</td>
<td>1.00/.08</td>
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<tr>
<td>C x PG</td>
<td>4.29</td>
<td>5</td>
<td>2.72*</td>
<td>.822/.03</td>
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<tr>
<td>C x CG</td>
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<td>5</td>
<td>1.10</td>
<td>.393/.01</td>
</tr>
<tr>
<td>C x PG x CG</td>
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<td>5</td>
<td>.20</td>
<td>.098/.00</td>
</tr>
<tr>
<td><strong>MS_E</strong></td>
<td>167.09</td>
<td>530</td>
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<td></td>
</tr>
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**Note:** *Values enclosed in parentheses represent standardized Beta. F values for covariates were calculated by squaring the t-value.

Homogeneity of Dispersion Matrices: $\chi^2 (63, N = 110) = 83.84, p < .05$.
Mauchly Sphericity Test: $\chi^2 (14, N = 110) = 47.05, p < .001$.

*p < .05; **p < .01; ***p < .001
were present. Post hoc analyses of the interaction revealed fathers rated the influence of genetics higher in emotional control competence than in helpfulness competence ($t(55) = 3.19, p < .001$) and in reasoning competence than in helpfulness ($t(55) = -3.69, p = .001$).

Mothers rated the influence of genetics significantly higher in academic or “school-type” competence than in helpful competence ($t(55) = 3.95, p < .001$), than in reasoning competence ($t(55) = 4.51, p < .001$), and, than in social interaction ($t(55) = 4.34, p < .001$). Additionally, mothers rated the influence of genetics as higher in curiosity competence than in helpfulness ($t(55) = 4.10, p < .001$) and higher in curiosity competence than competence in social interaction ($t(55) = 4.10, p < .001$).

**Father.** The results for the influence of the father indicated no between subjects effects for parent gender or child gender and no interaction effect (Table 16).

A within subjects main effect for competency, $F(5, 530) = 3.52, p < .01$, and an interaction effect between competency and child gender, $F(5, 530) = 3.26, p < .01$, were present. Post hoc analyses for preschool boys revealed fathers were rated as having significantly greater influence in helpful competence than in academic competence ($t(55) = -4.37, p < .001$) and in curiosity competence than in academic competence ($t(55) = -3.41, p = .001$). For preschool girls, the influence of the father was rated as greater in helpful competence than in emotional control competence ($t(55) = -3.06, p = .003$) and in helpful competence than in competence in social interaction ($t(55) = 3.06, p = .003$).

**Mother.** The MANCOVA results indicated no between subjects effect for parent child gender and no interaction effect (Table 17).

A within subjects main effect for competency, $F(5, 530) = 5.19, p < .01$, and an
Table 16

MANCOVA for Father Among Fathers and Mothers

<table>
<thead>
<tr>
<th>Source</th>
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</tr>
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<td>.043/.00</td>
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<td>.371/.03</td>
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<td>Parent Gender (PG)</td>
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<td>.17</td>
<td>.049/.00</td>
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<td>Child Gender (CG)</td>
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<td>.48</td>
<td>.104/.01</td>
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<td>1</td>
<td>.06</td>
<td>.043/.00</td>
</tr>
<tr>
<td><strong>MSE</strong></td>
<td>71.23</td>
<td>103</td>
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<tr>
<td><strong>Within Subjects Effects</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Competence (C)</td>
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<td>3.52**</td>
<td>.917/.03</td>
</tr>
<tr>
<td>C x PG</td>
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<td>5</td>
<td>1.04</td>
<td>.374/.01</td>
</tr>
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</tr>
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<td>C x PG x CG</td>
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<td>5</td>
<td>.34</td>
<td>.138/.00</td>
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<td><strong>MSE</strong></td>
<td>104.32</td>
<td>530</td>
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**Note:** *Values enclosed in parentheses represent standardized Beta. F values for covariates were obtained by squaring the t-value.
Homogeneity of Dispersion Matrices: $\chi^2(63, N = 110) = 80.76, p > .05$.
Mauchly Sphericity Test: $\chi^2(14, N = 110) = 28.06, p < .05$.
*p < .05; **p < .01; ***p < .001
interaction effect between competency and child gender, $F(5, 530) = 3.14, p < .01$, were present. Post hoc analyses for preschool boys revealed the influence of mother to be significantly higher in helpfulness competence than in academic competence ($t(55) = -3.41, p = .001$) and in helpfulness than in curiosity competence ($t(55) = -3.61, p = .001$). For preschool girls, the influence of the mother was significantly greater in helpful competence than competence in emotional control ($t(55) = -4.83; p < .001$) and in helpfulness than in reasoning competence ($t(55) = 3.10, p = .003$).

**Early childhood educator.** The MANCOVA results indicated no between subjects main effect for parent gender or child gender and no interaction effect (Table 18).

A within subjects main effect for competency, $F(5, 520) = 15.52, p < .001$, was present. Post hoc analyses revealed parents rated the influence of the educator lower in emotional control competence than in all other competencies (academic competence, $t(109) = 7.36, p < .001$; curiosity competence, $t(108) = 5.95, p < .001$; helpful competence, $t(109) = -6.73, p < .001$; reasoning competence, $t(109) = -4.32, p < .001$; and social interaction competence, $t(109) = -5.37, p < .001$). The influence of educators was significantly greater in academic competence than in reasoning competence ($t(111) = 4.03, p < .001$).

**Peers.** The MANCOVA results for the peer agent indicated no between subjects main effect for parent gender or child gender and no interaction effect (Table 19).

A within subjects main effect for competency, $F(5, 520) = 30.52, p < .001$, and interaction effect between child gender and competency, $F(5, 520) = 2.49, p < .05$, were present.

Post hoc analyses for preschool boys revealed the influence of peers to be significantly
Table 17

MANCOVA for Mother Among Fathers and Mothers

<table>
<thead>
<tr>
<th>Source</th>
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<th>df</th>
<th>F</th>
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<td>.777/.10</td>
</tr>
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<td>Education^a</td>
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<td>1</td>
<td>.93</td>
<td>.034/.00</td>
</tr>
<tr>
<td>Number of children^a</td>
<td>(-.09)</td>
<td>1</td>
<td>3.30</td>
<td>.436/.03</td>
</tr>
<tr>
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<td>(.14)</td>
<td>1</td>
<td>6.57*</td>
<td>.716/.06</td>
</tr>
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<td>Parent Gender (PG)</td>
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<td>1</td>
<td>.01</td>
<td>.034/.00</td>
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<tr>
<td>Child Gender (CG)</td>
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<td>1.87</td>
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<tr>
<td>PG x CH</td>
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<td>.048/.00</td>
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MS_E 64.20 103

<table>
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<th>F</th>
<th>Power/Eta²</th>
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<td>5</td>
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<td>.987/.05</td>
</tr>
<tr>
<td>C x PG</td>
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<td>5</td>
<td>1.27</td>
<td>.452/.01</td>
</tr>
<tr>
<td>C x CG</td>
<td>2.99</td>
<td>5</td>
<td>3.14**</td>
<td>.879/.03</td>
</tr>
<tr>
<td>C x PG x CG</td>
<td>.17</td>
<td>5</td>
<td>.17</td>
<td>.092/.00</td>
</tr>
</tbody>
</table>

MS_E 101.16 530

Note: ^aValues enclosed in parentheses represent standardized Beta. F values for covariates were obtained by squaring the t-value.
Homogeneity of Dispersion Matrices: \( \chi^2 (63, N = 110) = 89.31, p < .05 \).
Mauchly Sphericity Test: \( \chi^2 (14, N = 110) = 38.71, p < .001 \).
*p < .05; **p < .01; ***p < .001
### Table 18

**MANCOVA for Educator Among Fathers and Mothers**

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>F</th>
<th>Power/Eta²</th>
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<tr>
<td><strong>Between Subjects Effects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regression</td>
<td>.96</td>
<td>3</td>
<td>.37</td>
<td>.122/.01</td>
</tr>
<tr>
<td>Education(^a)</td>
<td>(-.02)</td>
<td>1</td>
<td>1.07</td>
<td>.180/.01</td>
</tr>
<tr>
<td>Number of children(^a)</td>
<td>(.01)</td>
<td>1</td>
<td>.04</td>
<td>.039/.00</td>
</tr>
<tr>
<td>Control(^a)</td>
<td>(.00)</td>
<td>1</td>
<td>.00</td>
<td>.033/.00</td>
</tr>
<tr>
<td>Parent Gender (PG)</td>
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<td>1</td>
<td>2.36</td>
<td>.330/.02</td>
</tr>
<tr>
<td>Child Gender (CG)</td>
<td>.19</td>
<td>1</td>
<td>.22</td>
<td>.047/.00</td>
</tr>
<tr>
<td>PG x CH</td>
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<td>1</td>
<td>.21</td>
<td>.047/.00</td>
</tr>
<tr>
<td><strong>MS(_E)</strong></td>
<td>87.56</td>
<td>101</td>
<td></td>
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</tr>
<tr>
<td><strong>Within Subjects Effects</strong></td>
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<td></td>
</tr>
<tr>
<td>Competency (C)</td>
<td>17.12</td>
<td>5</td>
<td>15.52***</td>
<td>1.00/.13</td>
</tr>
<tr>
<td>C x PG</td>
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<td>5</td>
<td>1.19</td>
<td>.425/.01</td>
</tr>
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<td>C x CG</td>
<td>1.34</td>
<td>5</td>
<td>1.21</td>
<td>.432/.01</td>
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<tr>
<td>C x PG x CG</td>
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<td>5</td>
<td>.23</td>
<td>.107/.00</td>
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<tr>
<td><strong>MS(_E)</strong></td>
<td>114.71</td>
<td>520</td>
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<td></td>
</tr>
</tbody>
</table>

*Note: \(^a\)Values enclosed in parentheses represent standardized Beta. F values for covariates were obtained by squaring the t-value. Homogeneity of Dispersion Matrices: \(\chi^2 (63, N = 108) = 103.90, p < .01.\)
Mauchly Sphericity Test: \(\chi^2 (14, N = 108) = 17.17, p > .05.\)
*p < .05; **p < .01; ***p < .001*
Table 19

**MANCOVA for Peer Among Fathers and Mothers**

<table>
<thead>
<tr>
<th>Source</th>
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<th>F</th>
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<td></td>
<td></td>
</tr>
<tr>
<td>Regression</td>
<td>16.91</td>
<td>3</td>
<td>4.28**</td>
<td>.852/.11</td>
</tr>
<tr>
<td>Education^</td>
<td>(-.06)</td>
<td>1</td>
<td>5.06*</td>
<td>.603/.05</td>
</tr>
<tr>
<td>Number of children^</td>
<td>(-.19)</td>
<td>1</td>
<td>6.67*</td>
<td>.722/.06</td>
</tr>
<tr>
<td>Control^</td>
<td>(-.04)</td>
<td>1</td>
<td>.32</td>
<td>.043/.00</td>
</tr>
<tr>
<td>Parent Gender (PG)</td>
<td>.81</td>
<td>1</td>
<td>.62</td>
<td>.160/.01</td>
</tr>
<tr>
<td>Child Gender (CG)</td>
<td>1.47</td>
<td>1</td>
<td>1.12</td>
<td>.183/.01</td>
</tr>
<tr>
<td>PG x CH</td>
<td>1.07</td>
<td>1</td>
<td>.82</td>
<td>.171/.01</td>
</tr>
<tr>
<td><strong>MS_E</strong></td>
<td>132.88</td>
<td>101</td>
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</table>

<p>| <strong>Within Subjects Effects</strong>                                     |</p>
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<th>F</th>
<th>Power/Eta*²</th>
</tr>
</thead>
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<tr>
<td>Competency (C)</td>
<td>41.16</td>
<td>5</td>
<td>30.52***</td>
<td>1.00/.23</td>
</tr>
<tr>
<td>C x PG</td>
<td>1.52</td>
<td>5</td>
<td>1.13</td>
<td>.404/.01</td>
</tr>
<tr>
<td>C x CG</td>
<td>3.36</td>
<td>5</td>
<td>2.49*</td>
<td>.781/.02</td>
</tr>
<tr>
<td>C x PG x CG</td>
<td>.25</td>
<td>5</td>
<td>.19</td>
<td>.095/.00</td>
</tr>
<tr>
<td><strong>MS_E</strong></td>
<td>140.27</td>
<td>520</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: ^Values enclosed in parentheses represent standardized Beta. F values for covariates were obtained by squaring the t-value.

Homogeneity of Dispersion Matrices: $\chi^2 (63, N = 108) = 51.60, p > .05$

Mauchly Sphericity Test: $\chi^2 (14, N = 108) = 24.25, p < .05$.

*p < .05; **p < .01; ***p < .001
greater in social interaction competence than in the following four competencies: reasoning competence ($t(55) = -5.43, p < .001$), competence in emotional control ($t(54) = -3.81, p < .001$), helpful competence ($t(55) = -3.25, p < .003$) and academic competence ($t(55) = -5.06, p < .001$). The influence of peers was greater in curiosity competence than in academic competence ($t(53) = -4.56, p < .001$) and in curiosity competence than in reasoning competence ($t(53) = 5.41, p < .001$).

For preschool girls, as for boys, the influence of peers was greater in social interaction competence than in the following four competencies: reasoning competence ($t(55) = -7.90, p < .001$), competence in emotional control ($t(55) = -6.20, p < .001$), helpful competence ($t(55) = -6.02, p < .001$), and academic competence ($t(55) = -7.78, p < .001$). The influence of peers was greater in curiosity competence than in the following four competencies: academic competence ($t(55) = -4.39, p < .001$), competence in emotional control ($t(55) = 3.31, p < .003$), reasoning competence ($t(55) = 5.72, p < .001$), and social interaction competence ($t(55) = -3.48, p < .003$). Finally, for preschool girls, the influence of peers in helpful competence was significantly greater than in reasoning competence ($t(55) = 3.89, p < .001$).

**Sibling.** The MANCOVA results indicated no between subjects main effect for parent gender or child gender and no interaction effect (Table 20).

A within subjects main effect for competency, $F(5, 360) = 13.39, p < .001$, was present. Post hoc analyses revealed the influence of siblings to be greater in curiosity competence than in academic competence ($t(77) = -3.68, p < .001$), than in emotional control competence ($t(76) = 3.95, p < .001$), and, than in reasoning competence ($t(77) = 5.39, p < .001$). Siblings in the home were rated as more influential in social interaction competence
Table 20

**MANCOVA for Sibling Among Fathers and Mothers**

### Between Subjects Effects

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
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<th>Power/Eta²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>13.31</td>
<td>3</td>
<td>2.95*</td>
<td>.676/.11</td>
</tr>
<tr>
<td>Education¹</td>
<td>(-.05)</td>
<td>1</td>
<td>2.45</td>
<td>.339/.03</td>
</tr>
<tr>
<td>Number of children¹</td>
<td>(-.21)</td>
<td>1</td>
<td>1.69</td>
<td>.247/.02</td>
</tr>
<tr>
<td>Control¹</td>
<td>(-.17)</td>
<td>1</td>
<td>2.47</td>
<td>.341/.04</td>
</tr>
<tr>
<td>Parent Gender (PG)</td>
<td>.29</td>
<td>1</td>
<td>.19</td>
<td>.050/.00</td>
</tr>
<tr>
<td>Child Gender (CG)</td>
<td>5.05</td>
<td>1</td>
<td>3.36</td>
<td>.439/.5</td>
</tr>
<tr>
<td>PG x CH</td>
<td>.09</td>
<td>1</td>
<td>.06</td>
<td>.045/.00</td>
</tr>
<tr>
<td><strong>MSE</strong></td>
<td>103.69</td>
<td>69</td>
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### Within Subjects Effects

<table>
<thead>
<tr>
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<th>df</th>
<th>F</th>
<th>Power/Eta²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competency (C)</td>
<td>15.50</td>
<td>5</td>
<td>13.39***</td>
<td>1.00/.16</td>
</tr>
<tr>
<td>C x PG</td>
<td>1.37</td>
<td>5</td>
<td>1.18</td>
<td>.420/.02</td>
</tr>
<tr>
<td>C x CG</td>
<td>1.66</td>
<td>5</td>
<td>1.43</td>
<td>.504/.02</td>
</tr>
<tr>
<td>C x PG x CG</td>
<td>2.15</td>
<td>5</td>
<td>1.86</td>
<td>.633/.03</td>
</tr>
<tr>
<td><strong>MSE</strong></td>
<td>83.35</td>
<td>360</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** ¹Values enclosed in parentheses represent standardized Beta. F values for covariates were obtained by squaring the t-value.

Homogeneity of Dispersion Matrices: \( \chi^2 (63, N = 76) = 70.43, p > .05 \).

Mauchly Sphericity Test: \( \chi^2 (14, N = 76) = 33.78, p < .01 \).

*\( p < .05; **p < .01; ***p < .001 \)
than in academic competence ($t (77) = -3.54, p = .001$), than in emotional control competence ($t (76) = -4.84, p < .001$), and, than in reasoning competence ($t (77) = -6.03, p < .001$).

Finally, the influence of siblings was greater in helpful competence than in emotional control competence ($t (76) = -3.17, p < .003$), and, than in reasoning ($t (77) = 4.37, p < .001$).

**Child’s own effort.** The MANCOVA results indicated no between subjects main effect for parent gender or child gender and no interaction effect (Table 21).

A within subjects main effect for competency, $F (5, 525) = 7.71, p < .001$, and an interaction effect between competency and child gender, $F (5, 525) = 3.65, p < .01$, were present. Post hoc analyses among preschool boys revealed that the influence of his own effort was significantly greater in curiosity competence than in social interaction competence ($t (54) = 3.32, p < .001$). Among preschool girls, however, the influence of her effort was greater in academic competence than in the following competencies: curiosity competence ($t (55) = 3.46, p < .003$), competence in emotional control ($t (55) = 6.23, p < .001$), helpful competence ($t (55) = 3.72, p < .001$), and reasoning competence ($t (55) = 3.22, p < .003$).

The influence of the preschool girl’s own effort was greater in curiosity competence than in emotional control ($t (55) = 3.61, p < .003$) and greater in competence in social interaction than competence in emotional control ($t (55) -3.45, p < .003$).

**Early Childhood Educators**

The 2 (child gender) by 6 (competency) repeated measures design for educators indicated no significant between subjects main or interaction effects and no within subjects main or interaction effects for competency with the following agents: father, mother, peers, and child.
Table 21

MANCOVA for Child Among Fathers and Mothers

### Between Subjects Effects

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>F</th>
<th>Power/Eta²</th>
</tr>
</thead>
<tbody>
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<td>Regression</td>
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<td>3</td>
<td>2.63</td>
<td>.629/.07</td>
</tr>
<tr>
<td>Education</td>
<td>(-.01)</td>
<td>1</td>
<td>.436</td>
<td>.081/.00</td>
</tr>
<tr>
<td>Number of children</td>
<td>(.11)</td>
<td>1</td>
<td>3.17</td>
<td>.422/.03</td>
</tr>
<tr>
<td>Control</td>
<td>(.15)</td>
<td>1</td>
<td>5.09*</td>
<td>.605/.05</td>
</tr>
<tr>
<td>Parent Gender (PG)</td>
<td>3.74</td>
<td>1</td>
<td>3.89</td>
<td>.496/.04</td>
</tr>
<tr>
<td>Child Gender (CG)</td>
<td>1.10</td>
<td>1</td>
<td>1.14</td>
<td>.185/.01</td>
</tr>
<tr>
<td>PG x CH</td>
<td>.05</td>
<td>1</td>
<td>.06</td>
<td>.043/.00</td>
</tr>
</tbody>
</table>

### Within Subjects Effects

<table>
<thead>
<tr>
<th>Source</th>
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<th>df</th>
<th>F</th>
<th>Power/Eta²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competency (C)</td>
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<td>5</td>
<td>7.71***</td>
<td>1.00/.07</td>
</tr>
<tr>
<td>C x PG</td>
<td>.86</td>
<td>5</td>
<td>1.19</td>
<td>.424/.01</td>
</tr>
<tr>
<td>C x CG</td>
<td>2.65</td>
<td>5</td>
<td>3.65**</td>
<td>.927/.03</td>
</tr>
<tr>
<td>C x PG x CG</td>
<td>.95</td>
<td>5</td>
<td>1.30</td>
<td>.464/.01</td>
</tr>
</tbody>
</table>

**Note:** *Values enclosed in parentheses represent standardized Beta. F values for covariates were obtained by squaring the t-value.

Homogeneity of Dispersion Matrices: $\chi^2 (63, N = 109) = 136.67$, $p < .001$.

Mauchly Sphericity Test: $\chi^2 (14, N = 109) = 47.66$, $p < .001$.

*p < .05; **p < .01; ***p < .001
Genetics. The MANCOVA results indicated no between subjects main effect for child gender and no interaction effect (Table 22).

A within subjects main effect for competency, $F(5, 135) = 3.30, p < .01$, was found. Post hoc analyses revealed the influence of genetics as rated by educators to be greater in academic competence than in social interaction ($t(29) = 3.60, p < .003$).

Early childhood educator. The MANCOVA results indicated no between subjects main effect for child gender and no interaction effect (Table 23).

A within subjects main effect for competency was found, $F(5, 140) = 3.74, p < .01$. In this analysis educators were indicating the amount of influence they believed they had in each competency. Educators rated their influence as significantly greater in academic competence than in competence in emotional control ($t(29) = 5.04, p < .001$).

Siblings in the home. The MANCOVA results indicated no between subjects main effect for child gender and no interaction effect (Table 24).

A within subjects main effect for competency shown, $F(5, 75) = 2.52, p < .05$. Post hoc analyses revealed the influence of siblings in the home as rated by educators to be greater in curiosity competence than in reasoning competence ($t(16) = 3.77; p < .003$).

Paired-Group Comparisons

Four paired t-tests were conducted in order to directly compare educators' rating of their own influence and the influence of mother and father with mothers’ and fathers’ rating of the educators. For example, the influence of the father, as assessed by fathers, was compared with the educators' rating of influence of fathers and the influence of educator as assessed by educators was compared with the mothers’ rating of educator. Averaged scores for each
Table 22

MANCOVA for Genetics Among Educators

<table>
<thead>
<tr>
<th>Source</th>
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<th>F</th>
<th>Power/Eta²</th>
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<td><strong>Between Subjects Effects</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regression</td>
<td>17.54</td>
<td>2</td>
<td>3.77*</td>
<td>.633/.23</td>
</tr>
<tr>
<td>Number of children</td>
<td>(.24)</td>
<td>1</td>
<td>6.50*</td>
<td>.686/.21</td>
</tr>
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<td>Education</td>
<td>(.11)</td>
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<td>2.20</td>
<td>.297/.08</td>
</tr>
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<td>Child Gender (CG)</td>
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<td>1</td>
<td>.00</td>
<td>.040/.00</td>
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<tr>
<td><strong>MSₑ</strong></td>
<td>58.16</td>
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<table>
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<td><strong>Within Subjects Effects</strong></td>
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</tr>
<tr>
<td>Competency (C)</td>
<td>6.70</td>
<td>5</td>
<td>3.30**</td>
<td>.886/.11</td>
</tr>
<tr>
<td>C x CG</td>
<td>1.18</td>
<td>5</td>
<td>.58</td>
<td>.209/.02</td>
</tr>
<tr>
<td><strong>MSₑ</strong></td>
<td>54.85</td>
<td>135</td>
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*Values enclosed in parentheses represent standardized Beta. F values for covariates were obtained by squaring the t-value.

Homogeneity of Dispersion Matrices: $\chi^2 (21, N = 29) = 25.38, p > .05$.

Mauchly Sphericity Test: $\chi^2 (14, N = 29) = 13.49, p > .05$.

*p < .05; **p < .01; ***p < .001
Table 23

MANCOVA for Educator Among Educators

<table>
<thead>
<tr>
<th>Source</th>
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<th>Power/Eta²</th>
</tr>
</thead>
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<tr>
<td>Between Subjects Effects</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Regression</td>
<td>.18</td>
<td>2</td>
<td>.11</td>
<td>.067/.01</td>
</tr>
<tr>
<td>Number of children</td>
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<td>.04</td>
<td>.045/.00</td>
</tr>
<tr>
<td>Education</td>
<td>(-.02)</td>
<td>1</td>
<td>.21</td>
<td>.057/.01</td>
</tr>
<tr>
<td>Child Gender (CG)</td>
<td>.13</td>
<td>1</td>
<td>.17</td>
<td>.057/.01</td>
</tr>
<tr>
<td><strong>MSE</strong></td>
<td>20.81</td>
<td>26</td>
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</table>

<table>
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<th>df</th>
<th>F</th>
<th>Power/Eta²</th>
</tr>
</thead>
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<tr>
<td>Averaged Within Subjects Effects</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competency (C)</td>
<td>3.60</td>
<td>5</td>
<td>3.74**</td>
<td>.927/.12</td>
</tr>
<tr>
<td>C x CG</td>
<td>.36</td>
<td>5</td>
<td>.37</td>
<td>.144/.01</td>
</tr>
<tr>
<td><strong>MSE</strong></td>
<td>26.92</td>
<td>140</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: *Values enclosed in parentheses represent standardized Beta. F values for covariates were obtained by squaring the t-value.
Homogeneity of Dispersion Matrices: $\chi^2(21, N = 30) = 20.67, p > .05$.
Mauchly Sphericity Test: $\chi^2(14, N = 30) = 19.53, p > .05$.
*p < .05; **p < .01; ***p < .001
Table 24

MANCOVA for Sibling Among Educators

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>F</th>
<th>Power/Eta²</th>
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<td><strong>Between Subjects Effects</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regression</td>
<td>.99</td>
<td>2</td>
<td>.16</td>
<td>.070/.02</td>
</tr>
<tr>
<td>Number of children¹</td>
<td>(-.01)</td>
<td>1</td>
<td>.01</td>
<td>.045/.00</td>
</tr>
<tr>
<td>Education²</td>
<td>(-.08)</td>
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<td>.209</td>
<td>.065/.02</td>
</tr>
<tr>
<td>Child Gender (CG)</td>
<td>.01</td>
<td>1</td>
<td>.01</td>
<td>.046/.00</td>
</tr>
<tr>
<td><strong>MSE</strong></td>
<td>41.27</td>
<td>13</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **Within Subjects Effects** |       |    |       |            |
| Competency (C)            | 3.13  | 5  | 2.52* | .757/.14   |
| C x CG                    | .70   | 5  | .62   | .216/.04   |
| **MSE**                   | 18.62 | 75 |       |            |

*Note: *¹Values enclosed in parentheses represent standardized Beta. F values for covariates were obtained by squaring the t-value.

Homogeneity of Dispersion Matrices: Test could not be calculated because of singular variance-covariance matrix.

Mauchly Sphericity Test: \( \chi^2 (14, \text{N} = 17) = 8.77, p > .05. \)

*p < .05; **p < .01; ***p < .001
agent across the six competencies and the Bonferroni correction to minimize the Type I error rate (0.05/4 = alpha ≤ .01) were used.

None of the comparisons reached significance indicating little difference in the perception of overall influence by one group of the other and that group's evaluation of their own influence. There was not significant difference between educators' rating of mothers' influence and mothers' rating of themselves nor educators' ratings of father's influence and fathers' ratings of themselves. Neither was there a significant difference between fathers' ratings of educators' influence and educators' rating of themselves nor mothers' rating of educators' influence and educators' rating of themselves.

Independent Group Comparisons: The Effect of Birth Order

To address the question regarding the effect of experience in parenting on parents' beliefs about their own relative degree of influence, a variable was created which indicated birth order of the target child. Children were classified as only child (n = 17), first-born child (n = 13) or a subsequent (meaning second-or third-born) child (n = 26). A series of one-way ANOVAs was conducted, with average influence of developmental agent as the dependent variable, separately for mothers and for fathers to assess significant mean differences between birth orders. The Bonferroni correction for alpha was used to indicate significance (0.05/7 = alpha ≤ .007).

Fathers

No significant mean group differences were found for fathers, that is, fathers' evaluations of the influence of each agent, including his own influence, did not vary by the birth order of their child.
Mothers

Mean differences were found for mothers on the influence of siblings in the home $F(1, 37) = 11.89, p < .007$. First-born and second- or third-born children were compared because only children do not have siblings and were, consequently, excluded. Results were intuitively obvious: mothers of second- or third-born children rated sibling influence higher than mothers of first-born children. The remaining comparisons were not significant.
CHAPTER 5. DISCUSSION

Comparison of Fathers and Mothers

Fathers’ and Mothers’ Beliefs Regarding Their Influence

The hypothesis that mothers would rate their influence on their preschool child’s development as greater than their husbands’ influence and fathers would rate their influence as less than their wives’ is not supported. There is little evidence in these analyses to suggest that mothers and fathers see their extent of influence differently. The strong, significant, and identical correlations between mothers’ influence and fathers’ influence as rated by mothers and mothers’ influence and fathers’ influence as rated by fathers (both sets of correlations are .91, p < .001) provide evidence to support the conclusion that mothers rated fathers and fathers rated mothers as similarly influential with themselves. Mothers and fathers do not differ in terms of their overall judgments across all agents as shown by the absence of a between subjects effect for gender of parent in the 2 (parent gender) by 2 (child gender) by 6 (agent) repeated measures MANCOVA after controlling for the effects of education, number of children, and parental control. The perceived relative influence of the different agents does not differ as a function of gender of parent as evidenced by the absence of an agent by parent gender interaction suggests that. Finally, the influence of mother agent and the influence of father agent are not significantly different as seen in the paired t-tests for the main effect of agent shows that. Thus, mothers and fathers appear to perceive themselves similarly; that is, the parenting behaviors of both are seen as either highly influential or as having little influence, neither group perceives its self to be superior or inferior in their parenting as compared to the other, and parents tend to think similarly regarding the influence of all of the agents.
These results are similar to those of Knight's 1981 study in which she found no mean differences between mothers and fathers in their beliefs regarding what contributes to a child's cognitive development including the strength of parents' influence with one exception. The mothers in her study perceived significantly more overlap in responsibility and influence between home and school than did fathers. Knight's study, however, did not ask each parent to rate the influence of the other parent as was done in this analysis nor was SES controlled or a factor in her study.

Fathers, while offering unique strengths, are not perceived to have less influence than mothers among the working couples in this sample. Fathers believe the extent of their influence to be very similar to mothers' influence. These results are noteworthy, particularly for fathers. Doherty, Kouneski, and Erickson (1998) assert that fathering is a social construction. A new and changing set of cultural ideals for fathers emerges with each generation. Unlike the historic view of father as a breadwinner, the current conception of father is one in which he is involved in face-to-face interaction with his family termed "responsible fathering" (Doherty et al., 1998, p. 278). This change is exemplified and encouraged by the emergence of the vast number of internet sites dedicated to fathers and parenting, of national father support groups, and of non-profit research institutions dedicated to understanding the effects of fathers' involvement on child and family development (e.g., National Center on Fathers and Families). Doherty and his colleagues (1998) assert, "Fathering is a product of the meanings, beliefs, motivations, attitudes, and behaviors of all these stakeholders [fathers, mothers, children, extended family, and the broader community] in the lives of children" (p. 278). Certainly, these results are supportive of the change in attitude
among fathers that their parenting is consequential in the development of their child (Simons et al., 1990).

A second possible explanation for the equality of fathers and mothers may be simply a result of the practical implications of their dual income situation; that is, in order to balance the demands between the work and family continuum, the effort of both adults is required. This may be especially true among mothers who often bear the major responsibility for household chores.

Third, this finding may be indicative of an intergenerational connection. A fairly recent body of research suggests a father’s relationship with his own father may be a factor in his involvement with his own family. Men whose fathers were highly involved in their own childhood carry this attitude and involvement forward in their own families or, by contrast, men whose fathers were uninvolved in their own childhood may carry a compensatory attitude into their own families (Cowan & Cowan, 1987; Doherty et al., 1998).

Fourth, this coequal parent relationship may be indicative of the marital relationship. Belsky (1984) hypothesizes the mother-father marital relationship to be one of several contextual factors of stress and support influencing the quality of parenting. Empirical studies provide some supportive evidence of this relationship for fathers (Belsky & Volling, 1987) as well as for mothers (Simons et al., 1990).

When examining any of the above explanations, the characteristics of the fathers in this study must be forefront. These fathers are employed and the majority are within families with relatively high incomes. This fact alone may serve to explain their perception of fathering influence (see review of literature on the effects of employment and fathering by Doherty et
al., 1998). Work is another contextual factor affecting parenting according to Belsky’s (1984) determinants of parenting model. Also, these families are intact (living together) which suggests that these mothers and fathers have either reached some agreement on the parenting process at this stage of the child’s development or believe the threat of disagreement is not irreconcilable.

**Parental Influence and the Influence of Other Agents**

**Parental Influence**

It is clear from this study that mothers and fathers believe they are the primary source of influence affecting the development in their young children, in comparison with other agents theorized to affect development, even when they share these childrearing responsibilities with an early childhood educator. Mothers and fathers are very similar in their beliefs regarding the overall influence of the respective developmental agents as observed from the absence of a main effect for parent gender and of an interaction effect between parent gender and agent for mothers and fathers in the 2 (parent gender) by 2 (child gender) by 6 (agent) MANCOVA for parents. Differences in the influence of each agent, as rated by mothers and fathers, are evident in the post hoc analyses for the main effect of agent. Mothers’ and fathers’ influence is significantly greater than the influence of genetics, peers, siblings, and educators.

Mothers and fathers indicate the greatest effect of their parenting to be in the process of acculturating their child to show respect, be cooperative, be courteous, and be empathetic (the latent competency helpfulness). The findings were consistent between the MANCOVA for the influence of mother on each competency and the MANCOVA for the influence of
father on each competency as evidenced in the post hoc analyses. These characteristics are representative of components of "communion" (Baumrind, 1988), one of the two interpersonal modalities found in high levels among competent children.

Mothers' influence and fathers' influence are moderated by the gender of the child; that is, mothers' influence on each competency is rated differently for boys than for girls and fathers' influence on each competency is rated differently for boys than for girls as observed in the competency by child gender interaction. Parents indicate that mothers' influence on sons and fathers' influence on sons is significantly greater in showing helpfulness and consideration of others than in cognitively oriented competencies. The influence of fathers on daughters is greater in helpfulness and consideration of others than in getting along with other children and showing emotional control. The influence of mothers on daughters is greater in helpfulness and consideration of others than in showing emotional control and reasoning/problem-solving competencies. The age of the child may be responsible for the differences in results between this study and Russell and Russell (1982). In that study, mothers of 11-year-old children rated themselves as more influential in teaching manners and other social graces as well as in getting along with others while fathers rated their influence higher on financial security. The fathers in the present study clearly represent a different belief regarding their influence that may represent, as alluded earlier, a cultural change in the role of fathers.

Genotypic Influence

Parents believe that genotypic influence is less influential than their own influence and the influence of the educator and of the child. Scarr's genotype-environment theory suggests that the "passive" environment within the parents' home is strongest among the early years of
development (Scarr & McCartney, 1984; Scarr, 1992) and is, itself, directed by the parents’
genetic composition. Therefore, it is difficult for parents to recognize the influence of
genetics because the child is a composite of their own genetic makeup and/or the parents’
home is itself directed by the parents’ genetic composition. The influence of genetics on each
competency (as observed in the MANCOVA results) is moderated by parent gender. Mothers
believe the influence of genetics to be stronger in cognitively-oriented competencies
(academics and reasoning) than in socially oriented competencies (helpfulness and social
interaction), whereas fathers believe genetics has a greater influence in showing emotional
control. Behavioral geneticists have theorized and have correlational evidence to suggest
genetic links to both intellectual characteristics and personality (Bouchard et al., 1990; Scarr,

These findings for mothers are quite similar to those found by Hmelstein et al. (1991)
in which mothers of children 5- to 17-years-of-age and older attributed academic success to
genetics over parenting and environment. Simultaneously, the results are inconsistent with
Knight’s (1981) study of parents of preschoolers who attributed intellectual outcome to
parenting. This contradiction with previous studies hints of a downward shift within mothers’
beliefs regarding contributors to success in school-type activities. It is quite possible that it is
related to the more structured atmosphere of child care centers and the push down of formal
curriculum in which alphabetic and numerical concepts are introduced, similar to a
kindergarten class, occurring in many centers (Elkind, 1986). It is important to note,
however, that the relative influence of genetics, according to parents, remains significantly
lower than the adults’ influence and the amount of variance explained is minimal (8%).
**Child’s Influence**

Parents recognize children as active contributors to their own outcomes. Again, drawing from the post hoc analyses for the main effect of agent for parents, child effort (averaged over all competencies) rates significantly higher than genotypic influence and significantly higher than peer influence. Parents believe children direct their own development, although more guidance is provided by the parents and educator (adults in the environment).

The 2 (parent gender) by 2 (child gender) by 6 (competency) MANCOVA, shows that the influence of the child’s effort on each competency is moderated by the child’s gender. Boys’ own effort is thought to have more affect in exploration and investigation (the latent competency curiosity) than in social interaction. This is the only significant difference between competencies for males. However, parents of girls appear to believe that girls’ own effort is a significantly greater influence in school-type analytical activities than in the remaining competencies except for getting along with others (the latent competency social interaction). Girls’ own effort is thought to be more influential in questioning how and why things work than in showing emotional control and, finally, more influential in getting along with others than in showing emotional control. Even at a young age, girls are thought to have less internal control over their emotional expression.

Overall, parents appear to recognize that children are active in effecting their own outcome; that is, processes internal to the child direct development (e.g., curiosity, discovery). This child-as-contributor view is representative of the Piagetian (1973) perspective and remains a dominant philosophy in parenting (White, 1990) and early childhood education.
whether or not this view changes with experience in parenting will be examined later in this chapter.

Fathers' and Mothers’ Beliefs About Educators

The Relative Influence of Educators

Mothers' and fathers' ratings indicate they believe that their child's educator is less influential than they are in influencing child outcomes. The results of this study are supportive of the hypothesis that mothers would rate themselves as more influential than they would rate the educator; however, results did not support the hypothesis that fathers would rate themselves as less influential than they would rate the educator. Fathers and mothers rate their effect as significantly higher than that of educators as observed in the post hoc results associated with the 2 (parent gender) by 2 (child gender) by 6 (agent) MANCOVA show. Parents also indicate the educator asserts more influence than genetics or peers. However, the presence of a strong and positive correlation between fathers' rating of their influence and their rating of the educators’ influence indicates that fathers who rate themselves as more influential also rate the educator as more influential. The same circumstance is observed for mothers' correlations.

Consequently, in the presence of a recognized influential adult who cares for their child for a substantial part of the week, parents do not relinquish their belief as the primary socializing agent (Maccoby & Martin, 1983). There is, however, indication that if parents believe they are influential (or not), they believe the educator, another prominent adult in the child's life, is influential as well, but not of equal influence. No post hoc analyses for agent among parents and among educators found adults' influence (mother, father, educator) rating
significantly less than genetics, peers, or child’s own effort.

**Educators’ Influence on Specific Competencies as Rated by Parents**

Examining the MANCOVA on the influence of the educator on each competency shows that parents believe that educators have less influence on showing emotional control than on all remaining competencies. This is an area in which parents, themselves, indicate less influence for themselves. It is not surprising that parents believe educators have more influence in analytical, reasoning, and exploratory activities such as number and letter comprehension because these subjects compose the traditional school curriculum in the United States usually taught under direct instruction by a teacher. Parents may easily believe that the early childhood educator is responsible for such instruction particularly, as previously suggested, with the current trend of pushing down academic curriculum in preschool (e.g., Elkind, 1986; Zigler, 1987). The atmosphere of child care centers as more structured, formalized environments, like primary school, and particularly unlike family home day cares, may be more conducive to thinking of child care as an opportunity for early conceptual and skill development. These parents recognize, as well, the educators’ influence in socially oriented outcomes. These competencies have been addressed traditionally and consistently by early childhood programs (Worthman, 1992).

**Early Childhood Educators’ Beliefs Regarding Mothers’ and Fathers’ Affect**

**Educators’ Beliefs Regarding Their Influence**

The educators who care for these preschool children believe they are equally influential with parents in contributing to child outcomes. Therefore, the hypothesis that the early childhood educator would rate their influence as greater than both mothers and fathers was
not supported. Educators see themselves as equally influential partners with mothers and fathers effecting child competencies as seen in by the lack of significant differences between the educators' rating of their caregiving influence and that of mothers' influence and of fathers' influence in the post hoc analyses for the 2 (child gender) by 6 (agent) MANCOVA for educators while controlling for level of education and number of own children. Earlier studies of parents of preschoolers have found educators to indicate parents were performing poorly and that educators utilized more positive childrearing strategies (Kontos et al., 1983; Rosenthal, 1991).

The strong and positive correlations between educators' rating of the influence of the mother agent and their rating of the influence of the father agent suggests that educators' beliefs are consistent with those of mothers and those of fathers; that is, mothers and fathers are quite similar in the extent of their influence. Educators who rate fathers as highly influential also rate mothers as highly influential. The positive correlation between educators' rating of their own influence and their rating of the mothers' influence, but not between educators' influence and father's influence, provides evidence to suggest that educators see a high correspondence between their influence and maternal but not paternal influences. It is interesting to speculate on why this difference exists. It may be due to lower visibility of fathers in child care centers as mothers often are responsible for the transition (transportation and emotional separation) from home to center and center to home; therefore, educators do not observe father-child interaction or talk with the fathers frequently enough to know them well. The difference may also be due to identification with the mother clientele by educators, all of who were female and approximately half of who were mothers themselves. The
contributions that fathers believe they are making to their child’s competencies are not recognized by educators. If there were more men in child care, would the fathers’ contributions be recognized more readily? It is an intriguing question worthy for further investigation.

The belief among educators that they are coequal with parents (i.e., they are not significantly different from parents in their influence on the child’s outcome) is consistent with the current professional standards of care set by the National Association for the Education of Young Children (NAEYC) known as “developmentally appropriate practices” (Bredekamp & Copple, 1997). These practices encourage the educators to work with parents as a team member or a partner in creating an appropriate care environment and support system for the child, rather than the educator assuming the role of expert in the face of uninformed parents or that of a custodian simply providing a place for children in the absence of the parent.

**Educators’ Influence and the Influence of Other Agents**

**Educators’ Influence**

The 2 (child gender) by 6 (competency) MANCOVA among educators for the educator agent represents their belief of their influence on the specific child competencies. Similarly to parents’ view of educators, educators rated their influence higher on academic or school-type work than on showing emotional control. These findings are consistent with Rosenthal (1991) who found, in her study of Israeli family child care providers, significantly higher ratings of influence on socially related outcomes than on emotional development.

**Genotypic Influence**

Educators rated the influence of genetics greater in school-type or academic
competency than in getting along with other children (the latent competency, social interaction). These results are strikingly similar to those for mothers found in the parent gender by competency interaction for the influence of genetics on each of the six competencies. These educators are similar to mothers in the Himelstein et al. (1991) study that, again, recognize genetic influence in academic outcome and also suggests that these educators think similarly to their mother clientele.

Peer Influence

The high correspondence between educators’ rating of themselves and their rating of peers in the classroom would not be unexpected because educators, unlike parents, observe the interaction first hand and note the consequences. Educator and peers are components of the same environment. Overall, however, peers were of significantly less influence compared to the remaining agents among mothers, fathers, and educators. No significant between subjects or within subjects effects appear for the influence of the peer agent on each competency for educators.

This finding is intriguing because preschoolers in care centers full-time are surrounded by their peers for most of their day. Nevertheless, their effect may not be detected easily; that is, the outcome of peer influence may not be manifested in observable, measurable ways to the adults or, any observed effect may have been discounted as temporary for preschoolers. Other competencies such as those related to communication or language, may have elicited a higher peer rating (Bailey, et al., 1993). It may be recalled that, for parents, the 2 (parent gender) by 2 (child gender) by 6 (competency) MANCOVA for the influence of the peer agent shows peer effect to be moderated by child gender. For both boys and girls, though, the
competency in which peers are believed to have the greatest influence is getting along with other children. It appears parents are observing and discriminating some child behavior as a result of peer interaction whereas educators are less likely to report such differential influence on competencies.

Comparing Mothers', Fathers', and Educators' Ratings

A particular strength of this study is the opportunity to compare educator and parent ratings of one another. Parents in this study indicate the influence of the educator to be less than their own and that educators believe they are equally influential with mother and father. Nevertheless, mothers' rating and fathers' rating of the influence of the educator are not significantly different from the rating educators gave themselves as is seen in the paired t-tests comparing ratings of overall influence of each group with the perception of the remaining groups. In the same manner, the ratings educators gave mothers and the ratings given to fathers are not significantly different from what mothers and fathers gave themselves.

Correlations between educators and fathers indicate a positive correspondence between these two groups on fathers' influence as well as on educators' influence. A positive correlation exists between mothers and educators on educators' influence but not on mothers' influence. The hypothesis that the educator would rate mothers' influence and fathers' influence as less than these groups' ratings of their respective influence and that mothers would rate educators' influence less than educators rate themselves is not supported. Only the hypothesized equal rating by fathers of educators' influence with the educators' rating of their own influence is supported. Therefore, while educators believe their influence was not different from mothers and fathers, in fact, their ratings suggest that they concur with parents:
educators have less influence across the six competencies than their parent clientele.

This positive view of parenting by educators in child care centers may be attributed to high level of education, older age, and parental status among educators (Kontos et al., 1983). Over half of educators have some college or have earned an associate's or bachelor's degree. Approximately half of the educators are parents. These results may be interpreted also in light of research on selecting child care that indicates that parents select the child care environment that most closely mirrors their parenting style and value system (e.g., Howes & Olenick, 1986; NICHD, 1997; Scarr, 1998). Parents have selected educators who are working under similar assumptions as themselves. Again, the professional standards set for educators, first published in 1987 (Bredekamp, 1987) stresses respect for parents and recognition of the family culture that may also explain the change in beliefs between 1983 and 1998.

Experience in Parenting

It was hypothesized that mothers and fathers who had more experience in the parenting role, that is more than one child, would rate the influence of genetics and siblings higher than parents with one child, and would rate their own parenting as less influential. This hypothesis is supported only for the sibling agent. The influence of siblings is moderated by gender of parent and gender of child as is observed in the 2 (parent gender) by 2 (child gender) by 2 (birth order) ANCOVA analysis for parents. Fathers rate the influence of siblings as greater for daughters who are second- or third-born children. Mothers rate the influence of siblings as greater for sons who are second- or third-born. Consequently, among opposite gender parent-child relationships, parents indicate that the influence of siblings is significantly greater for the younger child than for the oldest child.
One-way ANOVA analyses done separately for fathers and for mothers, comparing the ratings of influence of each agent across three groups (only children, first-born children, and second- or third-born children) reveals a corresponding significant relationship for mothers. Mothers of second- or third-born children rate the influence of siblings as greater than mothers of first-born children. The parent groups do not differ on any of the remaining agents with respect to each agent’s overall influence.

A large body of research on sibling relationships provides evidence to conclude that older siblings act as role models as well as teachers for their younger siblings (see review of sibling literature by Teti, 1992). Cicirelli (1976) found children with older siblings were more likely to go to their older sibling(s) for assistance and to receive help from them. Mothers delegated child care responsibility to older siblings, especially older sisters, for younger siblings as they managed other activities in the home. The parents in this study may recognize the assistance and interaction of older siblings with younger siblings that likely occurs while parents attend to other activities in the home.

It is not clear, however, why the opposite parent-child gender relationship exists. It may be attributed to the growing, but quite immature, gender identity of the preschool child and gender role modeling of the same gender parent. For example, the father is the role model for his son, an exemplar of masculine characteristics. Mothers play a similar role for daughters. It may be that fathers of daughters believe they have less in common with their daughters in terms of gender role instruction and/or fathers observe older siblings teaching and modeling for the child. The gender of the older sibling(s) and the age difference between siblings would be important variables to examine in further investigation of this cross-gender
parent-child relationship.

Himelstein et al. (1991) found that parents of multiple children attributed less influence on child outcomes to their parenting than parents of only children, however, SES was neither made a factor nor statistically controlled. No such differences in parental influence are present in this study with SES controlled. These results are also inconsistent with the ETS study by McGillicuddy-DeLisi (1982) in which parents of three children gave greater recognition to internal processes, for example, self-regulation and impulsivity, than parents of only children. SES (parent education) was statistically controlled within that study. No such differences in children’s own effort are present in this study with SES as a covariate, although, a positive correlation exists for fathers between number of children in the home and child’s own effort.

In a review of family structure variables such as spacing of children and number of children in the family, Miller (1988) suggests that research has found “remarkably little impact of family structure on what parents believe” (p. 272). It may also be true that birth order is not a sensitive measure to assess change in beliefs. Rather, it may be particular experiences associated with childrearing that change beliefs. What these life events are remains a direction for further study. Clearly, a longitudinal design following parents over the birth of one child through subsequent children may better illuminate such changes but this is more challenging to implement (Miller, 1988).

Limitations

First and foremost, this research study is question specific and context specific. The six competencies selected do not nearly begin to address all of the potential competencies that occur during development within children. For example, no question addressed physical or
linguistic developmental outcomes. The selected competencies, however, are similar to the characterization of competent children 8-12 years of age (Masten, Coatsworth et al., 1995).

The competencies used in the study are based upon the responses of parents within the United States, within a Midwestern culture, the same culture and time from which the sample of parents and educators came. Consequently, the competencies that were selected were considered important for the child by the parents of this particular area. The results, therefore, should not be generalized to be the same for other competencies nor cultures and regions beyond the Midwest because these competencies may not be considered relevant to that culture or time. The sample of parents is predominantly Anglo or White, middle to upper income and well educated. The children were without disability that further restricts the generalizability of the results. Further research on content and context validity of competencies, respective of culture, would be needed to extend this research into other populations, geographical regions, and/or cultures and such an effort is underway at the Early Childhood Research Institute on Measuring Growth and Development at the University of Minnesota. Extension of the research into single parent, gay and lesbian couples, parents with disabilities or psychopathological disorders, and families experiencing stress such as abuse is needed.

Secondly, although the study was designed to achieve a random sample of parents (centers were selected randomly and directors were asked to randomly select parents), a self-selection bias in respondents may be inherently present. First, center directors who agreed to participate may have been more supportive of parent involvement within their centers and may have been more aware of the role of research in child development. Secondly, center directors
may have given preference either consciously or unconsciously to parents who have a history of cooperative interaction with the center or may have had access to a limited number of qualifying families that did not allow for random selection.

The small sample size (low response rate) may be indicative of a parental bias. Parents who responded may be more confident about not only their own parenting, but their spouse’s perception of their parenting and the importance of parenting in general. These parents may think a survey on parenting was worthy of their time while those who give parenting less priority deemed it unworthy and subsequently did not respond. However, compared to other studies that have sampled parents from communities and public institutions, the parental response rate is not uncharacteristic (e.g., Himelstein et al., 1991; Martin & Johnson, 1992). The sample size is not atypical with respect to other studies of parental beliefs (e.g., Clarke-Stewart, 1978; Hess et al., 1980; Segal, 1985) and parental beliefs of working parents (Russell & Russell, 1982). One strength of this study is the relatively high number of fathers who participated as compared to other studies that have attempted to include fathers (e.g., Campis, Lyman, & Prentice-Dunn, 1986; Martin & Johnson, 1992).

It is possible that this priority on parenting may have translated into a halo effect. As noted in the Results, no correlation emerged between mothers and fathers on mothers’ influence nor between mothers and fathers on the fathers’ influence. In light of the previous strong correlations between mothers’ and fathers’ influence by mothers and by fathers, several different factors were suggested that may be contributing to mothers’ ratings and to fathers’ ratings. An additional explanation could be the presence of a systematic variance or bias known as the halo effect defined as “a constant error that occurs when raters’ general
impressions bias their ratings of distinct aspects of the ratees” (Pedhazur & Pedhazur Schmelkin, 1991, p. 121). For example, if parents, in general, believe that parents are important and influential in early childhood development, then they may have rated mothers and fathers the same without distinguishing between particular maternal influence and particular paternal influence. The relatively low number of significant findings may be a result of low variability.

When working with a well educated, employed sample, it is possible that parents who responded felt competent themselves that may have indirectly influenced their expectation and evaluations of their parenting (D. Crystal, personal communication, July 2, 1998). These parents may have recognized the function of research and, therefore, may have been more likely to respond.

Finally, the age of the target child in this study is a clear limit to the generalization of the results beyond early childhood. Researchers have found a clear shift in parental beliefs of their own influence and the influence of genetics when the child enters formal education at 5-years-of-age (Himelstein, et al., 1991; Knight, 1981).

Implications

The implications of this research are most salient for any professional working with children and families to optimize growth and development in young children. Any discussion or reference to the child and/or his environment must include both the father and the mother rather than just one parent as parents believe their influence to be similar. Educators, in particular, need to continue the developmentally appropriate practice of working as a team member with mothers and especially fathers rather than assuming any superior knowledge or
inferior status.

Future research on parental beliefs and their relationship to child competency should examine the relationship between parents’ rating of competence in the child and their rating of their own influence as well as a more objective rating of child competence (potentially by the teacher) and parental ratings of his/her own influence. Also worthy of further study are situations in which there are incongruent beliefs regarding the influence of the mother and of the father within the family and its effect on parenting, on subjective evaluations of competence, and objective measures of child outcomes, particularly in families under stress.

Because there are other forms of child care readily used by parents (e.g., family child care homes and Head Start) this study could be extended to examine educators’ beliefs in these environments and the extent of agreement between the parents and educators. Other studies suggest cultural differences in sources believed to affect development (Durrow & Bozoky, 1998) and should be further explored.

Comments by parents and educators on the survey instrument indicated the presence of additional agents considered to be of consequence in development; for example, religious institutions, television and film media, neighbors, extended family members, and adult friends. These clearly represent the multifaceted and complicated system of development and should be included in further studies of parents’ and educators’ beliefs and the influence of these beliefs on parenting, caregiving, parent-educator relationships and child outcomes.
APPENDIX. INSTRUMENTS AND CORRESPONDENCE
PARENT LOCUS OF CONTROL SCALE

Parental Efficacy

1. When I set expectations for my child, I am almost certain that I can help him/her meet them.
2. When my child gets angry, I can usually deal with him/her if I stay calm.
3. It is not always wise to expect too much from my child because many things turn out to be a matter of good or bad luck anyway. *
4. I am often able to predict my child’s behavior in situations.
5. No matter how hard a parent tries, some children will never learn to mind. *
6. My child usually ends up getting his/her way, so why try. *
7. If your child tantrums no matter what you try, you might as well give up. *
8. Parents should address problems with their children because ignoring them won’t make them go away.
9. When something goes wrong between me and my child, there is little I can do to correct it. *
10. What I do has little effect on my child’s behavior. *

Parental Control

1. Sometimes, when I’m tired, I let my children do things I normally wouldn’t. *
2. I always feel in control when it comes to my child.
3. My child’s behavior is sometimes more than I can handle. *
4. Sometimes I feel that my child’s behavior is hopeless. *
5. It is often easier to let my child have his/her way than to put up with a tantrum. *
6. It is not too difficult to change my child’s mind about something.
7. My child often behaves in a manner very different from the way I would want him/her to behave. *
8. I allow my child to get away with things. *
9. I find that sometimes my child can get me to do things I really did not want to do. *
10. Sometimes I feel that I do not have enough control over the direction my child’s life is taking. *

*Item recoded so that high score represented high efficacy or high control.

LETTER TO CENTER DIRECTORS

March 20, 1998

Job title
Company
Address
Address
City, State Postal Code

Dear Center Director:

We are inviting your center’s participation in a project focusing on parents’ and early childhood teachers’ beliefs about child development. The purpose of the project is to extend our understanding of what mothers and fathers of preschoolers believe is their influence on their child’s development and the beliefs of the early childhood educator who, as a professional, shares in the caregiving and teaching relationship. Research indicates that beliefs are one of the factors that guide behavior in both parents and teachers. With the number of children in child care increasing nationwide, and developmentally appropriate practice calling for greater integration of families, insight on the beliefs held by early childhood professionals and those held by mothers and fathers will assist in enhancing the communication among these groups.

Three groups of persons are being sought to participate. The first group includes mothers and fathers (couples) with only one child. The child must be 36 to 60 months and enrolled in full-time care at the Center. The second group includes mothers and fathers (couples) with several children, one of whom is between 36 and 60 months but is not the oldest child. This child must also be receiving full-time care at the Center. In both groups, father and mother need to be present in the home. The third group of persons include the early childhood educator or lead teacher for the child of the participating parents. Although questions will focus on the child, the child him/herself will not participate in any manner. Your participation in the project would mean generating a list of children with eligible parents. Families would be identified by number only and then randomly selected. Confidentiality will be protected at all times.

The identified parents will be given an envelope including a letter of invitation/instruction, a survey for the mother and one for the father, and an informed consent form to complete which will allow the child’s teacher to assess their child’s social-emotional and thinking skills. Both mother and father will be asked to complete the surveys separately as well as return the surveys separately by mail to Iowa State University (ISU).
With parental permission, the teacher of the participating parents' child will also receive a similar package including a letter of instruction/invitation and two different surveys to complete. The first asks the teacher to share his/her beliefs about child development. Approximately 20 minutes will be needed to answer the questions. The second will be completed on the participating parents' child. If several parents participate from the classroom, then the teacher would complete one form on each child. A limit of four children per teacher has been set. The teacher will be asked to rate the child's performance on six skills and the influence of his/her caregiving and teaching on the child. It will take approximately 10 minutes to complete this form for each child.

All materials will be delivered by mail or in person to the center. Completed surveys will be returned directly to ISU in self-addressed stamped envelopes. No monetary costs will be incurred by the center by participating in the project. As a expression of appreciation, a package of curriculum materials will be sent to the participating teacher(s).

Participation in the study is voluntary for all parties; participants may withdraw at any time. The information collected will be used for research purposes only; participants are identified by an assigned number. All information is considered confidential and will NOT be shared between teachers, centers, and parents. The surveys will be kept secured and destroyed upon completion of the study.

You will be contacted by telephone within the next week to visit about the project and participation. However, you are most welcome to contact either one of us to discuss your questions or comments. A Letter of Approval for Participation form and a stamped, addressed envelope are enclosed for your response. Thank you for your time. We look forward to further communication with you.

Sincerely,

Bronwyn S. Fees, M.S. Ed., C.F.C.S.  
Human Development & Family Studies  
Office: 515-294-8526  
E-mail: bfees@iastate.edu

Jacques D. Lempers, Professor  
Human Development & Family Studies  
Office: 515-294-4565  
E-mail: jlempers@iastate.edu
LETTER OF APPROVAL FOR PARTICIPATION

The Growing Child Project

As the director of the Center, I have read the letter of introduction and explanation inviting this Center’s participation in The Growing Child, a study of parents’ and early childhood educators’ beliefs. I have discussed the purpose, procedures, and any concerns with Bronwyn Fees or Jacques Lempers and may continue to do so at any time. I understand that the Center’s participation in the project is completely voluntary. I may withdraw the Center’s participation at any time without consequence.

As the director of a participating center, I (or a person appointed by me) will generate a list of children who qualify for participation in the study (between 36 and 60 months of age, receive care 35 hours or more a week, and have no known disability or chronic disorder). The list will be kept confidential by the Center and will not be disclosed. This list will be divided further into two lists: 1) singletons, and 2) children with an older sibling. The number of families randomly selected is dependent upon the number of teachers who work with this age group. A limit of four families per teacher has been set.

Surveys will be delivered to identified parents by placing them in the child’s coat stall or through other appropriate means.

Corresponding surveys for early childhood educators of children of participating parents will be distributed upon receipt of signed informed consent by the parent.

All information collected is considered strictly confidential and will NOT be shared between parties. Surveys will be destroyed upon completion of the project.

____ Yes, on behalf of the Center, I agree to participate in the research project.

____ No, on behalf of the Center, I decline to participate in the research project.

Signed ___________________________________________ (director) (date)

Center ____________________________________________

Address ____________________________________________

Bronwyn S. Fees, M.S. Ed., C.F.C.S. Jacques D. Lempers, Professor
Human Development and Family Studies Human Development and Family Studies
E-mail: bfees@iastate.edu E-mail: jlempers@iastate.edu (3/98)
LETTER TO FATHERS AND MOTHERS

Dear Parent:

You are invited to participate in a study focusing on parenting, teaching, and child development. The purpose of the study is to gain a greater understanding of mothers' and fathers' beliefs regarding the influence of adults, children, and other factors on development in young children. You are being invited because you are a parent of a preschooler and you share childrearing with an early childhood educator in a child care center. The director of your child’s center has given permission for the center to be involved with this study.

Your participation would involve the following: 1) completing the enclosed survey; 2) returning it in the enclosed, self-addressed, and stamped envelope; and 3) granting permission for your child’s early childhood teacher to make a very brief assessment of your child’s social-emotional and thinking skills. The survey will take 25 minutes approximately to complete.

Your spouse/partner has received a similar survey. It is important that you and your spouse/partner complete the surveys separately. Do not discuss your answers to the questions until each of you have put your survey in the envelope, sealed it, and mailed it. Some studies suggest that parents in a household may have different views about parenting. Your personal perspective is very important and we would appreciate your honesty. We hope that after you return the envelope, however, you will take an opportunity to discuss your responses with your spouse/partner.

When you answer the questions, think only of your preschool child. If you have several children, think of your child who is enrolled in the center and who is between 36 and 60 months.

Please return the survey and the Informed Consent form by ____________________.

Your participation in the study is completely voluntary; you may withdraw at any time without consequence. All information is considered confidential. Under no circumstances will your responses be shared with your center director, your child’s teacher, or any other party. The surveys will be kept secured and destroyed upon completion of the study.

You are welcome to contact either of us with your questions or comments. As parents we know how busy the days become; thank you for your time and insight. Please accept the enclosed materials as an expression of our appreciation.

Sincerely,

Bronwyn S. Fees, M. S. Ed., C.F.C.S.
Human Development & Family Studies
Office: 515-294-8526
E-mail: bfees@iastate.edu

Jacques D. Lempers, Professor
Human Development & Family Studies
Office: 515-294-4565
E-mail: jlempers@iastate.edu

(3/98)
PARENT INFORMED CONSENT

The Growing Child Project

I have read the letter of introduction and explanation inviting my participation in The Growing Child, a study of parenting, teaching, and child development. The purpose of the project is to gain a greater understanding of parent and teacher beliefs regarding the influence of adults, children, and other factors on growth and change in young children.

I agree to complete the survey and grant permission to my child’s teacher to make a general assessment of my child’s performance on social-emotional and thinking skills. The assessment is for the survey only and will NOT be used for any other purpose. I understand that participation in the study will in no way affect my child’s enrollment in the center or participation in the program. My child will not be asked to participate in any manner.

I understand that my participation in the project is completely voluntary. I may withdraw my participation at any time without consequence to me, my child, or my status in the center.

My responses are considered strictly confidential; information WILL NOT be shared with the center, teacher, or any other party. Surveys will be kept secured and destroyed upon completion of the project.

_____ Yes, I agree to allow my child’s teacher to make a general assessment of my child’s performance on his/her social-emotional and thinking skills.

_____ No, I decline to allow my child’s teacher to make a general assessment of my child’s performance on his/her social-emotional and thinking skills.

Signed ____________________________ ____________________________
(parent) (date)

Center ____________________________ City ____________________________

The name of my child’s teacher ____________________________

Bronwyn S. Fees, M.S. Ed., C.F.C.S. Jacques D. Lempers, Professor
Human Development and Family Studies Human Development and Family Studies
E-mail: bfees@iastate.edu E-mail: jlempers@iastate.edu

RETURN WITH A SURVEY
THE GROWING CHILD: A SURVEY OF FATHERS AND MOTHERS
ABOUT PARENTING

This survey is designed to gain a better understanding of fathers' and mothers' ideas regarding a variety of people and other factors thought to influence the growth and change in preschool children. We are interested in your thoughts. There are no right or wrong answers.

Your spouse or partner has been given a similar survey. Please do not talk with your spouse or other members of the household about the contents of this survey until you have completed the survey and returned it in the mail. We want to know what you think.

After mailing the survey, we hope that you will then share your thoughts about parenting with each other.

Please answer all of the questions. If you wish to comment on any question or qualify your answers, feel free to use the space in the margins. Your comments will be read and taken into account.

Thank you for your time.

Department of Human Development and Family Studies
Child Development 101
Iowa State University
Ames, Iowa 50011
1. I am a parent of a child between the ages of 3 and 5 years (36 to 60 months).
   1. Yes
   2. No

Directions: For the following questions, you are asked 1) to rate your child’s current performance on a skill, and 2) to rate the amount of influence you believe each of the listed factors has had on your child with respect to that skill. Please circle number or word in the column on the right that best reflects your beliefs.

2a. How well does your child use a sense of curiosity with a desire to learn; for example, being interested in how and why things happen, exploring his/her environment, and being curious about many things? (Please circle answer.)
   - SKILL LEVEL
     1 = DOES NOT DO AT ALL
     2 = DOES POORLY
     3 = DOES OKAY OR ADEQUATE
     4 = DOES WELL
     5 = DOES VERY WELL

2b. How much do you believe each of the following factors influence your child’s curiosity with a desire to learn? (Circle the word which indicates the degree of influence.)
   - DEGREE OF INFLUENCE
     - NO LITTLE SOME A LOT COMPLETE
     - a. inherited characteristics
     - b. your parenting behavior
     - c. your spouse’s parenting behavior
     - d. your child’s teacher
     - e. playmates at the day care
     - f. brothers and sisters at home
     - g. your child’s own effort
3a. How well does your child get along with other children; for example, being a friend to others, sharing his/her things, handling conflicts verbally, and making friends with others? (Circle your answer.)

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<thead>
<tr>
<th>SKILL LEVEL</th>
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<tbody>
<tr>
<td>1 = DOES NOT DO AT ALL</td>
</tr>
<tr>
<td>2 = DOES POORLY</td>
</tr>
<tr>
<td>3 = DOES OKAY OR ADEQUATE</td>
</tr>
<tr>
<td>4 = DOES WELL</td>
</tr>
<tr>
<td>5 = DOES VERY WELL</td>
</tr>
</tbody>
</table>

3b. How much do you believe each of the following factors influence your child's skill at getting along with other children? (Circle the word which indicates the degree of influence.)

<table>
<thead>
<tr>
<th>DEGREE OF INFLUENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO LITTLE SOME A LOT COMPLETE</td>
</tr>
</tbody>
</table>

a. inherited characteristics
b. your parenting behavior
c. your spouse's parenting behavior
d. your child's teacher
e. playmates at the day care
f. brothers and sisters at home
g. your child's own effort

4a. How well does your child perform academic skills or "school-type" activities; for example, naming colors, counting, and identifying/spelling his/her first name? (Circle your answer.)

<table>
<thead>
<tr>
<th>SKILL LEVEL</th>
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</thead>
<tbody>
<tr>
<td>1 = DOES NOT DO AT ALL</td>
</tr>
<tr>
<td>2 = DOES POORLY</td>
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<tr>
<td>3 = DOES OKAY OR ADEQUATE</td>
</tr>
<tr>
<td>4 = DOES WELL</td>
</tr>
<tr>
<td>5 = DOES VERY WELL</td>
</tr>
</tbody>
</table>

4b. How much do you believe each of the following factors influence your child's ability to do academic or school-type activities? (Circle the word which indicates the degree of influence.)

<table>
<thead>
<tr>
<th>DEGREE OF INFLUENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO LITTLE SOME A LOT COMPLETE</td>
</tr>
</tbody>
</table>

a. inherited characteristics
b. your parenting behavior
c. your spouse's parenting behavior
d. your child's teacher
e. playmates at the day care
f. brothers and sisters at home
g. your child's own effort
5a. How well is your child able to show emotional control; for example, showing emotions appropriately, handling disappointments, identifying his/her emotions? (Circle your answer.)

5b. How much do you believe each of the following factors influence your child’s ability to show emotional control? (Circle the word which indicates the degree of influence.)

6a. How well does your child show helpfulness and consideration for others; for example, being polite, using good manners, being kind to others, showing empathy for others, and being cooperative? (Circle your answer.)

6b. How much do you believe each of the following factors influence your child’s helpfulness and consideration for others? (Circle the word which indicates the degree of influence.)
7a. How well does your child use reasoning and problem-solving skills, for example, anticipating consequences, thinking things through to solve a problem, and using common sense? (Circle your answer.)

DEGREE OF INFLUENCE

a. inherited characteristics
   - NO
   - LITTLE
   - SOME
   - A LOT
   - COMPLETE

b. your parenting behavior
   - NO
   - LITTLE
   - SOME
   - A LOT
   - COMPLETE

c. your spouse's parenting behavior
   - NO
   - LITTLE
   - SOME
   - A LOT
   - COMPLETE

d. your child's teacher
   - NO
   - LITTLE
   - SOME
   - A LOT
   - COMPLETE

e. playmates at the day care
   - NO
   - LITTLE
   - SOME
   - A LOT
   - COMPLETE

f. brothers and sisters at home
   - NO
   - LITTLE
   - SOME
   - A LOT
   - COMPLETE

g. your child's own effort
   - NO
   - LITTLE
   - SOME
   - A LOT
   - COMPLETE

8. When reflecting on your own childhood, which family members were the most influential on your thinking about how children learn and should be reared? Identify number 1 (most influential) and number 2 (second in influence).

   MOST INFLUENTIAL
   SECOND MOST INFLUENTIAL

1. MY MOTHER
2. MY FATHER
3. MY GRANDMOTHER
4. MY GRANDFATHER
5. MY AUNT
6. MY UNCLE
7. MY BROTHER
8. MY SISTER
9. OTHER FAMILY MEMBER (PLEASE IDENTIFY)
Another purpose of this study is to learn more about how mothers and fathers feel about their parenting.

**Directions:** Think about how you feel about being a parent. Read each of the following statements. Circle the extent to which you agree or disagree with each statement. There are no right or wrong answers.

<table>
<thead>
<tr>
<th>STRONGLY DISAGREE</th>
<th>DISAGREE</th>
<th>UNDECIDED</th>
<th>AGREE</th>
<th>STRONGLY AGREE</th>
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<tbody>
<tr>
<td>SD</td>
<td>D</td>
<td>U</td>
<td>A</td>
<td>SA</td>
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</tbody>
</table>

1. When I set expectations for my child, I am almost certain that I can help him/her meet them. 

2. Sometimes, when I'm tired, I let my children do things I normally wouldn't.

3. I always feel in control when it comes to my child.

4. When my child gets angry, I can usually deal with him/her if I stay calm.

5. My child's behavior is sometimes more than I can handle.

6. It is not always wise to expect too much from my child because many things turn out to be a matter of good or bad luck anyway.

7. Sometimes I feel that my child's behavior is hopeless.

8. I am often able to predict my child's behavior in situations.

9. It is often easier to let my child have his/her way than to put up with a tantrum.

10. No matter how hard a parent tries, some children will never learn to mind.
<table>
<thead>
<tr>
<th>STRONGLY DISAGREE</th>
<th>DISAGREE</th>
<th>UNDECIDED</th>
<th>AGREE</th>
<th>STRONGLY AGREE</th>
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</thead>
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<tr>
<td>SD</td>
<td>D</td>
<td>U</td>
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<td>SA</td>
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</tbody>
</table>

11. It is not too difficult to change my child’s mind about something.  

12. My child usually ends up getting his/her way, so why try.  

13. My child often behaves in a manner very different from the way I would want him/her to behave.  

14. If your child tantrums no matter what you try, you might as well give up.  

15. I allow my child to get away with things.  

16. Parents should address problems with their children because ignoring them won't make them go away.  

17. I find that sometimes my child can get me to do things I really did not want to do.  

18. When something goes wrong between me and my child, there is little I can do to correct it.  

19. Sometimes I feel that I do not have enough control over the direction my child's life is taking.  

20. What I do has little effect on my child's behavior.  

Direction: Please circle the appropriate response or provide the information requested.

1. Indicate your gender:  
   1. MALE  
   2. FEMALE  

2. What is your age in years? ______________ YEARS  

3. Which ethnicity best describe you?  
   1. ASIAN/PACIFIC ISLANDER  
   2. BLACK-NOT HISPANIC ORIGIN  
   3. WHITE-NOT HISPANIC ORIGIN  
   4. HISPANIC  
   5. NATIVE AMERICAN INDIAN/ALASKAN  
   6. OTHER (PLEASE IDENTIFY) ________________  

4. Indicate your education level:  
   1. GRADE SCHOOL  
   2. SOME HIGH SCHOOL  
   3. HIGH SCHOOL GRADUATE  
   4. SOME COLLEGE  
   5. SOME TECHNICAL SCHOOL  
   6. ASSOCIATE'S DEGREE  
   7. BACHELOR'S DEGREE  
   8. PROFESSIONAL DEGREE (JD, DDS, MD)  
   9. MASTER'S DEGREE  
   10. DOCTORAL DEGREE (Ph.D., Ed.D.)  

5. What is your current occupation? ____________________________  

6. What is your employment status? (Select one)  
   1. EMPLOYED FULL TIME  
   2. EMPLOYED PART TIME  
   3. FULL TIME STUDENT  
   4. PART TIME STUDENT  
   5. FULL TIME AT HOME  
   6. PART TIME WORK AND PART TIME STUDENT  

7. What is your current marital status?  
   1. MARRIED  
   2. DIVORCED  
   3. SINGLE  
   4. WIDOWED  

8. What is the total combined annual family income?  
   1. $00,000 to $10,000  
   2. $10,001 to $20,000  
   3. $20,001 to $30,000  
   4. $30,001 to $40,000  
   5. $40,001 to $50,000  
   6. $50,001 to $100,000  
   7. over $100,001
Directions: Please answer the following questions with regard to your own child.

1. Identify your child’s gender. 
   1. MALE
   2. FEMALE

2. What is your child’s date of birth?
   
<table>
<thead>
<tr>
<th>MONTH</th>
<th>DAY</th>
<th>YEAR</th>
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</table>

3. Which ethnicity best describes him/her?
   1. ASIAN/PACIFIC ISLANDER
   2. BLACK-NOT HISPANIC ORIGIN
   3. WHITE-NOT HISPANIC ORIGIN
   4. HISPANIC
   5. NATIVE AMERICAN INDIAN/ALASKAN
   6. OTHER (PLEASE IDENTIFY) ________________________________

4. Does your child have any formally/professionally diagnosed special needs such as developmental delays, a prosthesis, chronic diseases?
   1. YES
   2. NO

   If YES, please briefly describe ________________________________

5. How many hours per week is your child receiving full-time child care?
   1. 30 to 35 HOURS
   2. 36 to 40 HOURS
   3. 41 to 45 HOURS
   4. 46 to 50 HOURS
   5. 51 to 55 HOURS
   6. 56 to 60 HOURS

6. Please provide information on the children currently living in the household including the preschool child that was the focus of this survey. Please circle the birth year of that child.

<table>
<thead>
<tr>
<th>CHILD</th>
<th>GENDER</th>
<th>BIRTH MONTH</th>
<th>BIRTH YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>OLDEST</td>
<td>M</td>
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<tr>
<td>SECOND</td>
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<tr>
<td>THIRD</td>
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<td>FOURTH</td>
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<tr>
<td>FIFTH</td>
<td>M</td>
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</tbody>
</table>
7. What is your relationship with your child?

1. MY BIOLOGICAL CHILD

2. MY ADOPTED CHILD
   HOW LONG HAS THE CHILD LIVED WITH YOU?
   ________ MONTHS

3. MY FAMILY MEMBER (NIECE, NEPHEW, COUSIN)

4. MY CHILD BY MARRIAGE BUT NOT LEGALLY ADOPTED BY ME.
   HOW LONG HAS THE CHILD LIVED WITH YOU?
   ________ MONTHS

5. OTHER ARRANGEMENT (PLEASE SPECIFY) ________________

8. On average, how many hours per weekday (that is, Monday through Friday) do you spend with your child (such as talking, dressing, bathing, eating, watching television but NOT sleeping)?
   ________________ HOURS

9. On average, how many hours on Saturday do you spend with your child (such as talking, dressing, bathing, eating, watching television but NOT sleeping)?
   ________________ HOURS

10. On average, how many hours on Sunday do you spend with your child (such as talking, dressing, bathing, eating, watching television but NOT sleeping)?
    ________________ HOURS
Is there anything else you would like to tell us about what influences your child's growth or about your feelings about being a parent? If so, please use this space to share that information.

Your time and insight are greatly appreciated. Please put this survey with the Informed Consent form in the enclosed addressed envelope, seal it, and place it in the mail. Thank you.
LETTER TO EARLY CHILDHOOD EDUCATOR

Dear Early Childhood Educator:

You are invited to participate in a study focusing on teaching, parenting, and child development. The purpose of the study is to gain a greater understanding of early childhood educators’ and parents’ beliefs regarding the influence of adults, children, and other factors on development in young children. Your participation is an integral part of the project. As a professional, you share in the caregiving and teaching of children for an extended part of their day. Developmentally appropriate practices suggest the individual needs of the child and family are one of the three main elements in curriculum development. Research results indicate that beliefs are one of the factors that guide behavior in both parents and teachers.

Parents of a child(ren) in your classroom have given permission for you to do a brief assessment of their child’s social-emotional and thinking skills. A survey has been enclosed for you to complete on each identified child. Completion time is estimated at 10 to 15 minutes. One survey per participating child has been enclosed. Please think of each child individually as you complete each survey.

A second survey has been included for you to complete regarding your own beliefs about child development. This survey will take 20 minutes approximately to complete.

Upon completion of all surveys, return them by mail to Iowa State University in the self-addressed, stamped envelope.

Please return all surveys by ________________________.

Participation in the study is completely voluntary; participants may withdraw at any time without consequence. All information is considered strictly confidential. Under NO circumstances will your responses be shared with your center director, the parents, or any other party. The surveys will be kept secured and destroyed upon completion of the study.

You are welcome to contact either of us with your questions or comments. We know how busy the days become and the many demands placed on you as an early childhood educator; thank you for your time and insight. Please accept the enclosed materials as an expression of our appreciation.

Sincerely,

Bronwyn S. Fees, M. S. Ed., C.F.C.S.
Human Development & Family Studies
Office: 515-294-8526
E-mail: bfees@iastate.edu

Jacques D. Lempers, Professor
Human Development & Family Studies
Office: 515-294-4565
E-mail: jlempers@iastate.edu

(3/98)
THE GROWING CHILD: A SURVEY OF EARLY CHILDHOOD

EDUCATORS REGARDING BELIEFS ABOUT

GROWTH AND DEVELOPMENT

The purpose of this survey is to gain a better understanding about your beliefs regarding the development of young children. We are interested in your opinions. There are no right or wrong answers.

Please answer all of the questions. If you wish to comment on any question or qualify your answers, please feel free to use the space in the margins. Your comments will be read and taken into account.

Thank you for your time.

Department of Human Development and Family Studies
Child Development 101
Iowa State University
Ames, Iowa 50011
Directions: Assume that all questions refer to preschool children who are 4-5 years old. Read each item and decide which answers you think are most important. Number your choices as follows:

1 = best answer  
2 = second best answer

1. What makes two preschool children friends?
   ___ They are encouraged to spend time together.  
   ___ They are about the same age and same size.  
   ___ They think about things in similar ways.

2. Where do children's misconceptions about the world come from?
   ___ Television and other children present confusing information.  
   ___ Misconceptions are a natural part of childhood.  
   ___ Children interpret their observations incorrectly.

3. Why do children's misconceptions about the world eventually change?
   ___ As they get older, they outgrow immature ideas.  
   ___ Adults or older children present the correct information.  
   ___ Their curiosity motivates them to test their ideas.

4. How do children come to understand a parent's viewpoint?
   ___ They figure out how the adult thinks from everyday experiences with parents.  
   ___ Parents must explain their viewpoint to children.  
   ___ When they reach a certain stage of development, they are able to understand the parent's viewpoint.

5. How do children come to know why some things float and others sink?
   ___ Parents or teachers must explain the concept to them.  
   ___ They discover the concept by experimenting with objects.  
   ___ They know why things float when they reach a certain stage.

6. What good does playing with others serve for young children?
   ___ They have an opportunity to test and develop their ideas.  
   ___ Playmates teach each other new ideas and behaviors.  
   ___ During play children demonstrate the skills that are appropriate for their age.

7. What makes children act independently?
   ___ They reach a stage when they can do things alone.  
   ___ Parents praise them for doing things on their own.  
   ___ They have a desire to experiment with new ideas and actions.

8. When do children usually follow rules?
   ___ When they want the approval of others or they fear punishment.  
   ___ When the rules are appropriate for their age level.  
   ___ When children understand the reasons for the rules.
9. How do young children make decisions?
   ____ They make decisions by weighing all the alternatives.
   ____ They rely on adults to help them decide.
   ____ They decide on the basis of what a child their age usually knows.

10. How do young children become able to plan things ahead of time?
    ____ When children are ready, they are able to plan.
    ____ They discover through daily experiences that planning is important.
    ____ Parents emphasize the importance of planning ahead.

11. How do young children come to realize that older children may feel different than they do?
    ____ Teachers and parents teach children to recognize different feelings.
    ____ Their curiosity leads them to think about the feelings of others.
    ____ Some children seem to naturally understand that others have different feelings.

12. What makes a child come to realize that some things are alive and others are not?
    ____ Adults describe and label the important characteristics for them.
    ____ At a certain age, they know the distinction naturally.
    ____ The child discovers the concept by observing and thinking about different things.

13. How do children become able to resolve conflicts with their playmates?
    ____ Some children are naturally more agreeable or cooperative than others.
    ____ They discover that cooperation reduces playtime conflicts.
    ____ They are encouraged by adults to get along.

14. How do young children come to understand the differences between plants and animals?
    ____ The distinction is obvious to children at a certain age.
    ____ They formulate the concept by observing and thinking about living things.
    ____ They are taught the important characteristics of each group.

15. How do young children become able to find their way home from school on their own?
    ____ They are given directions by others and then practice the skill with supervision.
    ____ Children's sense of direction improves as they grow older.
    ____ Children's abilities to observe and reason strongly influence this skill.

16. How do children know that a candy bar broken into pieces is still the same amount of candy?
    ____ While playing with objects, children think about the relationship of parts and wholes.
    ____ Adults keep reminding them that the amounts are equal.
    ____ Children begin to know this when they reach a certain age.

17. How do children come to realize that parents cannot control the times of TV programs?
    ____ Parents must explain this to children a number of times before it sinks in.
    ____ They figure this out by observing adults' limitations.
    ____ As they get older, they outgrow such confusion.
18. How do children come to know that TV commercials are different from regular shows?
   — This understanding comes naturally as children develop.
   — Repeated exposure and explanation from others helps them learn the difference.
   — They gradually formulate the concept as they observe the difference.

19. Why are children able to make up imaginative stories?
   — Make believe is a natural part of childhood.
   — Teachers and parents encourage and foster the child's imagination.
   — As children play with others and think about objects, their imaginations develop.

20. How do children become able to read a clock?
   — They must develop the concept of time and know their numbers.
   — They reach a stage when they are ready to learn.
   — They are taught by parents or teachers.

21. How do young children come to understand that cartoon characters are not real?
   — Parents tell them that these stories are make-believe.
   — At some point, the difference is obvious to children.
   — Their everyday experiences help them realize that cartoon characters cannot be real.

22. Why do children begin to take care of their toys and other belongings?
   — Parents continually remind them that this is important.
   — They realize that they will have toys longer if they take care of them.
   — Some children seem to have a natural tendency to be neat and orderly.

23. How do children come to know when to follow rules and when to be independent?
   — If children know why the rules exist, they will know when to follow them.
   — The natural balance between rules and independent action emerges spontaneously.
   — Adults explain when rules must be followed.

24. How do children overcome irrational fears?
   — They rely on adults to calm their fears.
   — Most children outgrow the stage when they are susceptible to such fears.
   — Thinking processes lead to the discovery that the fears are unfounded.

25. What makes young children cautious in dangerous situations?
   — They naturally fear danger.
   — They are taught to recognize danger.
   — They observe danger signals and regulate themselves.

26. How do children get the desire to do their best?
   — Some children seem to be born with a desire to succeed.
   — They imitate adults who work hard.
   — Their curiosity motivates them to keep testing their ideas.
27. When are children best able to deal with sad feelings?
   ____ When they are comforted by adults.
   ____ When they understand what has caused the sadness.
   ____ When they are mature enough to cope with the sad situation.

28. How do children form opinions?
   ____ Opinions develop naturally as children grow older.
   ____ Children's insights into everyday experiences are the basis of their opinions.
   ____ They take on the opinions of their parents and peers.

29. How do children become able to solve everyday problems?
   ____ Adults demonstrate the solutions for them.
   ____ They relate past experiences to new situations.
   ____ The necessary problem-solving skills emerge spontaneously as children mature.

30. How do children come to realize the consequences of their actions?
   ____ Children gradually become more aware of how things happen as they grow older.
   ____ They think about possible outcomes of their actions.
   ____ Adults praise their good behavior or ignore their bad behavior.

Directions: Please circle the appropriate response or provide the information requested.

1. Indicate your gender:
   1. MALE
   2. FEMALE

2. What is your age in years? ___________ YEARS

3. Which ethnicity best describes you?
   1. ASIAN/PACIFIC ISLANDER
   2. BLACK-NOT OF HISPANIC ORIGIN
   3. WHITE-NOT OF HISPANIC ORIGIN
   4. HISPANIC
   5. NATIVE AMERICAN INDIAN/ALASKAN
   6. OTHER (PLEASE IDENTIFY) ______________________

4. Indicate your education level:
   1. GRADE SCHOOL
   2. SOME HIGH SCHOOL
   3. HIGH SCHOOL GRADUATE
   4. SOME COLLEGE
   5. SOME TECHNICAL SCHOOL
   6. ASSOCIATE’S DEGREE
   7. BACHELOR’S DEGREE
   8. MASTER’S DEGREE
   9. PROFESSIONAL DEGREE (JD, DDS, MD)
   10. DOCTORAL DEGREE (Ph.D., Ed.D.)

5. If you graduated with a secondary degree (beyond high school) what was your major area of study?
   __________________________________________________________________________________________

6. How many years have you worked directly with children (not your own) who are 3- and 4-years-old, for example, as a preschool teacher, a home daycare provider, Sunday school teacher?
   ___________ YEARS

7. Do you have children of your own?
   1. YES
   2. NO

   If yes, how many? 1, 2, 3, 4, 5, 6, 7, 8, 9, 10
Is there anything else you would like to tell us about how you believe young children grow and develop? If so, please use this space to share that information.

Your time and insight are greatly appreciated. Please put this survey in the enclosed addressed envelope with the surveys on the identified children, seal it, and place it in the mail. Thank you.
THE GROWING CHILD: A SURVEY OF EARLY CHILDHOOD EDUCATORS REGARDING CAREGIVING AND TEACHING

This survey is designed to gain a better understanding of early childhood educators' ideas regarding a variety of people and other factors thought to influence the growth and change in preschool children. We are interested in your own thoughts. There are no right or wrong answers.

As you complete this survey, think only of the identified child.

Your fellow educators may have been given a similar questionnaire. Please do not talk with your fellow teachers or other members of the staff about the contents of this survey until you have completed the survey and returned it in the mail. We want to know what you think.

Please answer all of the questions. If you wish to comment on any question or qualify your answers, feel free to use the space in the margins. Your comments will be read and taken into account.

Thank you for your time.

Department of Human Development and Family Studies
Child Development 101
Iowa State University
Ames, Iowa 50011
1. I am the identified child’s lead or head teacher. 1. YES
2. NO

Directions: For the following questions, you are asked 1) to rate the identified child’s current performance on a skill, and 2) to rate the amount of influence you believe each of the listed factors has had on the identified child with respect to that skill. Please circle the number or word in the columns on the right that best reflect your beliefs.

**SKILL LEVEL**

2a. How well does this child use a sense of curiosity with a desire to learn; for example, being interested in how and why things happen, exploring his/her environment, and being curious about many things? (Please circle answer.)

1 = DOES NOT DO AT ALL
2 = DOES POORLY
3 = DOES OKAY OR ADEQUATE
4 = DOES WELL
5 = DOES VERY WELL

2b. How much do you believe each of the following factors influence this child’s curiosity with a desire to learn? (Circle the word which indicates the degree of influence.)

**DEGREE OF INFLUENCE**

a. inherited characteristics .................. NO LITTLE SOME A LOT COMPLETE
b. mother’s parenting behavior ............ NO LITTLE SOME A LOT COMPLETE
c. father’s parenting behavior ............ NO LITTLE SOME A LOT COMPLETE
d. your care and teaching ................... NO LITTLE SOME A LOT COMPLETE
e. playmates in child care ................... NO LITTLE SOME A LOT COMPLETE
f. brothers and sisters at home .......... NO LITTLE SOME A LOT COMPLETE
g. the child’s own effort .................... NO LITTLE SOME A LOT COMPLETE

Please turn the page.
3a. How well does this child get along with other children; for example, being a friend to others, sharing his/her things, handling conflicts verbally, and making friends with others? (Circle your answer.)

**SKILL LEVEL**
1 = DOES NOT DO AT ALL
2 = DOES POORLY
3 = DOES OKAY OR ADEQUATE
4 = DOES WELL
5 = DOES VERY WELL

3b. How much do you believe each of the following factors influence this child’s skill at getting along with other children? (Circle the word which indicates the degree of influence.)

**DEGREE OF INFLUENCE**

- a. inherited characteristics
- b. mother’s parenting behavior
- c. father’s parenting behavior
- d. your care and teaching
- e. playmates at child care
- f. brothers and sisters at home
- g. the child’s own effort

4a. How well does this child perform academic skills or “school-type” activities; for example, naming colors, counting, and identifying/spelling his/her first name? (Circle your answer.)

**SKILL LEVEL**
1 = DOES NOT DO AT ALL
2 = DOES POORLY
3 = DOES OKAY OR ADEQUATE
4 = DOES WELL
5 = DOES VERY WELL

4b. How much do you believe each of the following factors influence this child’s ability to do academic or school-type activities? (Circle the word which indicates the degree of influence.)

**DEGREE OF INFLUENCE**

- a. inherited characteristics
- b. mother’s parenting behavior
- c. father’s parenting behavior
- d. your care and teaching
- e. playmates at child care
- f. brothers and sisters at home
- g. the child’s own effort
SKILL LEVEL

5a. How well is this child able to show emotional control; for example, showing emotions appropriately, handling disappointments, identifying his/her emotions? (Circle your answer.)

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<th>DEGREE OF INFLUENCE</th>
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5b. How much do you believe each of the following factors influence this child’s ability to show emotional control? (Circle the word which indicates the degree of influence.)

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SKILL LEVEL

6a. How well does this child show helpfulness and consideration for others; for example, being polite, using good manners, being kind to others, showing empathy for others, and being cooperative? (Circle your answer.)

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6b. How much do you believe each of the following factors influence this child’s helpfulness and consideration for others? (Circle the word which indicates the degree of influence.)

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**SKILL LEVEL**

7a. How well does this child use reasoning and problem-solving skills; for example, anticipating consequences, thinking things through to solve a problem, and using common sense? (Circle your answer.)

1 = DOES NOT DO AT ALL
2 = DOES POORLY
3 = DOES OKAY OR ADEQUATE
4 = DOES WELL
5 = DOES VERY WELL

7b. How much do you believe each of the following factors influence this child's use of reasoning and problem-solving skills? (Circle the word which indicates the degree of influence.)

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<tr>
<th>DEGREE OF INFLUENCE</th>
<th>NO</th>
<th>LITTLE</th>
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<td>f. brothers...</td>
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<td>g. the child's...</td>
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1. When did you begin providing care for this child?
   MONTH ________ YEAR ________

2. How many hours per week do you have contact with him or her? ________ HOURS

3. Does this child have any formally or professionally diagnosed special needs (developmental delays, prosthesis...)?
   1. YES
   2. NO

If yes, please briefly describe. ________________________________
Is there anything else you would like to tell us about what influences this child’s growth or about your feelings about being an early childhood educator? If so, please use this space to share that information.

Your time and effort are greatly appreciated! Please put this survey in the enclosed addressed envelope with the other child surveys (if another child was identified) and the Beliefs About Development survey, seal it, and put it in the mail.
LETTER TO FATHERS AND MOTHERS IN CHILD DEVELOPMENT
LABORATORY SCHOOL

Dear Parent:

You are invited to participate in a study focusing on parenting, teaching, and child development. The purpose of the study is to gain a greater understanding of mothers' and fathers' beliefs regarding the influence of adults, children, and other factors on development in young children. You are being invited because you are a parent of a young child attending preschool or kindergarten.

Your participation would involve completing the enclosed survey and returning it in the enclosed envelope to a collection box in your child’s room. The survey will take 20 to 25 minutes approximately to complete.

Your spouse/partner has received a similar survey. It is important that you and your spouse/partner complete the surveys separately. Do not discuss your answers to the questions until each of you have put your survey in the envelope and returned it to the School. Some studies suggest that parents in a household may have different views about parenting. Your personal perspective is very important and we would appreciate your honesty. We hope that after you return the envelope, however, you will take an opportunity to discuss your responses with your spouse/partner.

When you answer the questions, think only of your child. If you have several children, think of your child who is enrolled in the Child Development Lab School preschool or kindergarten program.

Please return the survey by ________________________.

Your participation in the study is completely voluntary; you may withdraw at any time without consequence. All information is considered confidential. Under no circumstances will your responses be shared with the director, your child’s teacher, or any other party. The surveys will be kept secured and destroyed upon completion of the study.

You are welcome to contact either of us with your questions or comments. As parents we know how busy the days become; thank you for your time and insight. Please accept the enclosed materials as an expression of our appreciation.

Sincerely,

Bronwyn S. Fees, M. S. Ed., C.F.C.S.
Human Development & Family Studies
Office: 515-294-8526
E-mail: bfees@iastate.edu

Jacques D. Lempers, Professor
Human Development & Family Studies
Office: 515-294-4565
E-mail: jlempers@iastate.edu

(4/98)
THE GROWING CHILD: A SURVEY OF FATHERS AND MOTHERS
ABOUT PARENTING

This survey is designed to gain a better understanding of fathers' and mothers' ideas regarding a variety of people and other factors thought to influence the growth and change in preschool children. We are interested in your thoughts. There are no right or wrong answers.

A survey has been provided for each parent in the home. Please do not talk with your spouse/partner or other members of the household about the contents of this survey until you have completed the survey and returned it to the School. We want to know what you think.

Please answer all of the questions. If you wish to comment on any question or qualify your answers, feel free to use the space in the margins. Your comments will be read and taken into account.

Thank you for your time.
1. Which class does your child attend?
   1. PRESCHOOL
   2. KINDERGARTEN

Directions: For the following questions, you are asked 1) to rate your child's current performance on a skill, and 2) to rate the amount of influence you believe each of the listed factors has had on your child with respect to that skill. Please circle number or word in the column on the right that best reflects your beliefs.

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<thead>
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<td>e. playmates at the day care</td>
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<td>f. brothers and sisters at home</td>
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<td>g. your child's own effort</td>
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3a. How well does your child get along with other children; for example, being a friend to others, sharing his/her things, handling conflicts verbally, and making friends with others? (Circle your answer.)

**SKILL LEVEL**

1 = DOES NOT DO AT ALL  
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3b. How much do you believe each of the following factors influence your child's skill at getting along with other children? (Circle the word which indicates the degree of influence.)

**DEGREE OF INFLUENCE**

a. inherited characteristics............... NO LITTLE SOME A LOT COMPLETE  
b. your parenting behavior............... NO LITTLE SOME A LOT COMPLETE  
c. your spouse's parenting behavior...... NO LITTLE SOME A LOT COMPLETE  
d. your child's teacher..................... NO LITTLE SOME A LOT COMPLETE  
e. playmates at the day care.............. NO LITTLE SOME A LOT COMPLETE  
f. brothers and sisters at home.......... NO LITTLE SOME A LOT COMPLETE  
g. your child's own effort............... NO LITTLE SOME A LOT COMPLETE

4a. How well does your child perform academic skills or "school-type" activities; for example, naming colors, counting, and identifying/spelling his/her first name? (Circle your answer.)

**SKILL LEVEL**

1 = DOES NOT DO AT ALL  
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4b. How much do you believe each of the following factors influence your child's ability to do academic or school-type activities? (Circle the word which indicates the degree of influence.)

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a. inherited characteristics............... NO LITTLE SOME A LOT COMPLETE  
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e. playmates at the day care.............. NO LITTLE SOME A LOT COMPLETE  
f. brothers and sisters at home.......... NO LITTLE SOME A LOT COMPLETE  
g. your child's own effort............... NO LITTLE SOME A LOT COMPLETE
5a. How well is your child able to show emotional control; for example, showing emotions appropriately, handling disappointments, identifying his/her emotions? (Circle your answer.)

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5b. How much do you believe each of the following factors influence your child’s ability to show emotional control? (Circle the word which indicates the degree of influence.)

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6a. How well does your child show helpfulness and consideration for others; for example, being polite, using good manners, being kind to others, showing empathy for others, and being cooperative? (Circle your answer.)

6b. How much do you believe each of the following factors influence your child’s helpfulness and consideration for others? (Circle the word which indicates the degree of influence.)

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</tbody>
</table>
7a. How well does your child use reasoning and problem-solving skills; for example, anticipating consequences, thinking things through to solve a problem, and using common sense? (Circle your answer.)

**SKILL LEVEL**

1 = DOES NOT DO AT ALL  
2 = DOES POORLY  
3 = DOES OKAY OR ADEQUATE  
4 = DOES WELL  
5 = DOES VERY WELL

7b. How much do you believe each of the following factors influence your child's use of reasoning and problems-solving skills? (Circle the word which indicates the degree of influence.)

**DEGREE OF INFLUENCE**

a. inherited characteristics................. NO LITTLE SOME A LOT COMPLETE  
b. your parenting behavior.................. NO LITTLE SOME A LOT COMPLETE  
c. your spouse's parenting behavior........ NO LITTLE SOME A LOT COMPLETE  
d. your child's teacher..................... NO LITTLE SOME A LOT COMPLETE  
e. playmates at the day care................. NO LITTLE SOME A LOT COMPLETE  
f. brothers and sisters at home............. NO LITTLE SOME A LOT COMPLETE  
g. your child's own effort................... NO LITTLE SOME A LOT COMPLETE

8. When reflecting on your own childhood, which family members were the most influential on your thinking about how children learn and should be reared? Identify number 1 (most influential) and number 2 (second in influence).

_______ MOST INFLUENTIAL  
_______ SECOND MOST INFLUENTIAL

1. MY MOTHER  
2. MY FATHER  
3. MY GRANDMOTHER  
4. MY GRANDFATHER  
5. MY AUNT  
6. MY UNCLE  
7. MY BROTHER  
8. MY SISTER  
9. OTHER FAMILY MEMBER (PLEASE IDENTIFY) ____________________________
Another purpose of this study is to learn more about how mothers and fathers feel about their parenting.

**Directions:** Think about how you feel about being a parent. Read each of the following statements. Circle the extent to which you agree or disagree with each statement. There are no right or wrong answers.

<table>
<thead>
<tr>
<th>Statement</th>
<th>STRONGLY DISAGREE</th>
<th>DISAGREE</th>
<th>UNDECIDED</th>
<th>AGREE</th>
<th>STRONGLY AGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. When I set expectations for my child, I am almost certain that I can help him/her meet them</td>
<td>SD</td>
<td>D</td>
<td>U</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>2. Sometimes, when I'm tired, I let my children do things I normally wouldn't</td>
<td>SD</td>
<td>D</td>
<td>U</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>3. I always feel in control when it comes to my child</td>
<td>SD</td>
<td>D</td>
<td>U</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>4. When my child gets angry, I can usually deal with him/her if I stay calm</td>
<td>SD</td>
<td>D</td>
<td>U</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>5. My child’s behavior is sometimes more than I can handle</td>
<td>SD</td>
<td>D</td>
<td>U</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>6. It is not always wise to expect too much from my child because many things turn out to be a matter of good or bad luck anyway</td>
<td>SD</td>
<td>D</td>
<td>U</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>7. Sometimes I feel that my child’s behavior is hopeless.</td>
<td>SD</td>
<td>D</td>
<td>U</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>8. I am often able to predict my child’s behavior in situations</td>
<td>SD</td>
<td>D</td>
<td>U</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>9. It is often easier to let my child have his/her way than to put up with a tantrum</td>
<td>SD</td>
<td>D</td>
<td>U</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>10. No matter how hard a parent tries, some children will never learn to mind</td>
<td>SD</td>
<td>D</td>
<td>U</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>STRONGLY DISAGREE</td>
<td>DISAGREE</td>
<td>UNDECIDED</td>
<td>AGREE</td>
<td>STRONGLY AGREE</td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>SD</strong></td>
<td><strong>D</strong></td>
<td><strong>U</strong></td>
<td><strong>A</strong></td>
<td><strong>SA</strong></td>
<td></td>
</tr>
<tr>
<td>11. It is not too difficult to change my child’s mind about something.</td>
<td>SD</td>
<td>D</td>
<td>U</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>12. My child usually ends up getting his/her way, so why try.</td>
<td>SD</td>
<td>D</td>
<td>U</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>13. My child often behaves in a manner very different from the way I would want him/her to behave.</td>
<td>SD</td>
<td>D</td>
<td>U</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>14. If your child tantrums no matter what you try, you might as well give up.</td>
<td>SD</td>
<td>D</td>
<td>U</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>15. I allow my child to get away with things.</td>
<td>SD</td>
<td>D</td>
<td>U</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>16. Parents should address problems with their children because ignoring them won’t make them go away.</td>
<td>SD</td>
<td>D</td>
<td>U</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>17. I find that sometimes my child can get me to do things I really did not want to do.</td>
<td>SD</td>
<td>D</td>
<td>U</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>18. When something goes wrong between me and my child, there is little I can do to correct it.</td>
<td>SD</td>
<td>D</td>
<td>U</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>19. Sometimes I feel that I do not have enough control over the direction my child’s life is taking.</td>
<td>SD</td>
<td>D</td>
<td>U</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>20. What I do has little effect on my child’s behavior.</td>
<td>SD</td>
<td>D</td>
<td>U</td>
<td>A</td>
<td>SA</td>
</tr>
</tbody>
</table>


Please turn the page......
Directions: Please circle the appropriate response or provide the information requested.

1. Indicate your gender:  
   1. MALE  
   2. FEMALE

2. What is your age in years? __________ YEARS

3. Which ethnicity best describe you?  
   1. ASIAN/PACIFIC ISLANDER  
   2. BLACK-NOT HISPANIC ORIGIN  
   3. WHITE-NOT HISPANIC ORIGIN  
   4. HISPANIC  
   5. NATIVE AMERICAN INDIAN/ALASKAN  
   6. OTHER (PLEASE IDENTIFY) _______________________

4. Indicate your education level:  
   1. GRADE SCHOOL  
   2. SOME HIGH SCHOOL  
   3. HIGH SCHOOL GRADUATE  
   4. SOME COLLEGE  
   5. SOME TECHNICAL SCHOOL  
   6. ASSOCIATE'S DEGREE  
   7. BACHELOR'S DEGREE  
   8. PROFESSIONAL DEGREE (JD, DDS, MD)  
   9. MASTER'S DEGREE  
   10. DOCTORAL DEGREE (Ph.D., Ed.D.)

5. What is your current occupation? ________________________________

6. What is your employment status? (Select one)  
   1. EMPLOYED FULL TIME  
   2. EMPLOYED PART TIME  
   3. FULL TIME STUDENT  
   4. PART TIME STUDENT  
   5. FULL TIME AT HOME  
   6. PART TIME WORK AND PART TIME STUDENT

7. What is your current marital status?  
   1. MARRIED  
   2. DIVORCED  
   3. SINGLE  
   4. WIDOWED

8. What is the total combined annual family income?  
   1. $00,000 to $10,000  
   2. $10,001 to $20,000  
   3. $20,001 to $30,000  
   4. $30,001 to $40,000  
   5. $40,001 to $50,000  
   6. $50,001 to $100,000  
   7. over $100,000
Directions: Please answer the following questions with regard to your own child.

1. Identify your child’s gender.
   1. MALE
   2. FEMALE

2. What is your child’s date of birth?

<table>
<thead>
<tr>
<th>MONTH</th>
<th>DAY</th>
<th>YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Which ethnicity best describes him/her?
   1. ASIAN/PACIFIC ISLANDER
   2. BLACK-NOT HISPANIC ORIGIN
   3. WHITE-NOT HISPANIC ORIGIN
   4. HISPANIC
   5. NATIVE AMERICAN INDIAN/ALASKAN
   6. OTHER (PLEASE IDENTIFY) ______________________

4. Does your child have any formally/professionally diagnosed special needs such as developmental delays, a prosthesis, chronic diseases?
   1. YES
   2. NO

   If YES, please briefly describe ____________________________________________

5. How many hours per week is your child receiving child care NOT including preschool or kindergarten; for example, your child attends child care before and/or after preschool or kindergarten? (Circle the appropriate category.)
   1. 0 hours
   2. 1 - 5 hours
   3. 6 - 10 hours
   4. 11 - 15 hours
   5. 16 - 20 hours
   6. 21 - 25 hours
   7. more than 26 hours

6. Please provide information on the children currently living in the household including the preschool child that was the focus of this survey. Please circle the birth year of that child.

<table>
<thead>
<tr>
<th>CHILD</th>
<th>GENDER</th>
<th>BIRTH MONTH</th>
<th>BIRTH YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>OLDEST</td>
<td>M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SECOND</td>
<td>M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>THIRD</td>
<td>M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FOURTH</td>
<td>M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FIFTH</td>
<td>M</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
7. What is your relationship with your child?
   
   1. MY BIOLOGICAL CHILD
   
   2. MY ADOPTED CHILD
      
      HOW LONG HAS THE CHILD LIVED WITH YOU?
      _______ MONTHS
   
   3. MY FAMILY MEMBER (NIECE, NEPHEW, COUSIN)
   
   4. MY CHILD BY MARRIAGE BUT NOT LEGALLY ADOPTED BY ME.
      
      HOW LONG HAS THE CHILD LIVED WITH YOU?
      _______ MONTHS
   
   5. OTHER ARRANGEMENT (PLEASE SPECIFY) _________________

8. On average, how many hours per weekday (that is, Monday through Friday) do you spend with your child (such as talking, dressing, bathing, eating, watching television but NOT sleeping)?
   
   ________________ HOURS

9. On average, how many hours on Saturday do you spend with your child (such as talking, dressing, bathing, eating, watching television but NOT sleeping)?
   
   ________________ HOURS

10. On average, how many hours on Sunday do you spend with your child (such as talking, dressing, bathing, eating, watching television but NOT sleeping)?
    
    ________________ HOURS
Is there anything else you would like to tell us about what influences your child's growth or about your feelings about being a parent? If so, please use this space to share that information.

---

Your time and insight are greatly appreciated. Please fold the survey and put it in the enclosed envelope, seal it, and return it to your child's teacher.

Thank you.
REFERENCES


Parental evaluations of child competence. Poster session presented at the annual meeting of the International Society for Study of Behavioural Development, Bern, Switzerland.


*American Psychologist, 44*, 120-126.


guidance of the construction of personal cultures. In I. E. Sigel, A. V. McGillicuddy-DeLisi,
& J. J. Goodnow (Eds.), Parental belief systems: Psychological consequences for children

development and family constellation, socioeconomic status, and parents’ teaching strategies.
In L. M. Laosa & I. E. Sigel (Eds.), Families as learning environments for children (pp. 261-
300). New York: Plenum.


Handbook of child psychology: Vol. 4. Socialization, personality, and social development (4th

developmental beliefs and mothers’ perceptions of the child. Unpublished doctoral
dissertation, University of Wisconsin, Madison.

beliefs about development and competencies. In I. E. Sigel, A. V. McGillicuddy-DeLisi, & J.
J. Goodnow (Eds.), Parental belief systems: The psychological consequences for children (2nd


