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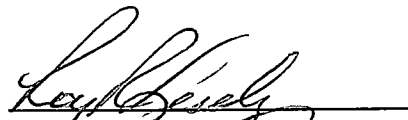
I am submitting herewith a dissertation written by Denise Judd Brandon entitled "Maternal Age at Transition to Parenthood: Prediction of Children's Perceptions of Well-Being." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Human Ecology.


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Maternal Age at Transition to Parenthood.
Prediction of Children's Perceptions of Well-Being

A Dissertation
Presented for the
Doctor of Philosophy
Degree

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Abstract

The purpose of this research was to investigate maternal age at the transition to parenthood as a predictor of children's perceptions of educational and socioemotional well-being. Parenting attributes were studied for their relationships to maternal age at the transition to parenthood and its associated demographic variables and as predictors of children's well-being. Data were obtained through interviews of 250 firstborn children ages 10 to 17 from Wave 2 of the National Survey of Families and Households. Data were analyzed using correlations and hierarchical regressions with a .05 alpha level as the criterion for significance.

Maternal age at the transition to parenthood was predictive of educational success and overall well-being of children. Parenting attributes of praise, negativity, and awareness of children's activities were not related to maternal age at the transition to parenthood after controlling for the associated demographic variables. However, parenting attributes were most predictive of children's well-being, especially the attribute of parental negativity. Family income, mother's education, marital stability, and number of children were associated with maternal age at the transition to parenthood.

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Chapter 1

Introduction

Maternal age at the transition to parenthood is a matter of concern to the general public and to professionals alike. Births to teens, especially to those who are unmarried, were of prime concern in the late 20th century because of the large number of teen pregnancies and births. At the other end of the spectrum, births, including first births, to women over the age of 35 years increased substantially as well. These trends toward nonnormative childbearing have fueled public and professional interest in the possible consequences for parents and their offspring.

Researchers have explored the relationship of children's well-being to maternal age at the transition to parenthood, but much of the information has come from retrospective reports of adults or from reports of parents, teachers, or observers of children and their parents. Children's voices have been largely ignored. Investigation of children's perceptions of their own lives can increase our understanding of the relationship of children's well-being to maternal age at the transition to parenthood.

Importance of the Topic

In the 20th century, the ages of 20 through 29 were the prime years for making the transition to parenthood for Americans (Rindfuss, Morgan, & Swicegood, 1988). The highest birth rates continued to be for women in that age group in the late 1990s (Ventura, Mosher, Curtin, Abma, & Henshaw, 1999). However, birth rates at both ends of

the age continuum have grown in recent years. The births rate per 1,000 females 15 through 19 years of age grew from 50.2 in 1986 to a high of 62.1 in 1991 and then declined to 54.4 by 1996 (Ventura et al., 1999). In the late 1990s, the trend of increasing birth rates for women in their 30s and 40s continued. In 1996, birth rates were 83.9 per 1,000 women for those 30 through 34 years of age and 35.3 per 1,000 women for those 35 through 39 years of age, the highest recorded for at least the last three decades (National Center for Health Statistics, 2000). Births to women over 40 fluctuated during that period but increased steadily from 1984 through 1996 (Ventura et al., 1999). First births to women 30 through 44 years of age were 23% of total births for that age group in 1995 (Bachu, 1997).

Suggested reasons for these changes in birth rates vary by age groups. For women under the age of 25, the higher birth rates appeared to be related to increases in the number who ever had intercourse, increases in rates of intercourse without contraception, decreases in use of oral contraceptives, and increases in use of condoms (Ventura, Taffel, Mosher, Wilson, & Henshaw, 1995). The long economic expansion of the 1990s, programs aimed at reducing teen pregnancy, and the introduction of easier-to-use and more effective birth control methods may have helped to reduce the teen pregnancy rates in the late 1990s (Ventura et al., 1999). Changes in birth rates to women in their 30s and 40s appeared to be related to previously delayed childbearing. An indicator of this trend was the increase in the percentage of women who remained childless at the age of 35 years—from 15% in 1980 to 21% in 1991 (Ventura et al., 1995)

Other recent age-related childbearing trends have implications for children's lives:

1. One trend is the increase in the percentage of mothers in the labor force with young children. Though this is a trend for mothers of all ages, between 1980 and 1992 the greatest increase in employment among mothers of children under 1 year of age was for women ages 30 through 44, an increase from 37% to 60% (U.S. Bureau of the Census, 1994).

2. Educational attainment is related to childbearing trends. In 1994 women with 0 to 8 years of education had the highest birth rates overall, whereas those who started but did not complete college had the lowest birth rates (Matthews & Ventura, 1997). For women with college degrees, birth rates were highest for women in their early 30s, with first birth rates two to five times the first birth rates for women of the same age with less education (Matthews & Ventura).

3 Another trend that has implications for children is the trend toward more out-of-wedlock births, particularly among teens (Ventura & Hendershot, 1984). Birth rates of married women declined between 1980 and 1991, but the birth rates for unmarried women increased by 54% during that same period, varying greatly by race (Ventura et al., 1995). Births to unmarried women in 1993 accounted for 24% of births to whites, 69% of births to blacks, and 40% of births to Hispanics (National Center for Health Statistics, 1996).

4 Another age-related trend is toward the use of technology to enhance conception rates for older women, including those who are postmenopausal. This technology has extended the time for couples to have children well beyond the current

norms. An example is the much-publicized birth of a baby to a 63-year-old woman (Paulson & Sachs, 1999).

Given the implications of these trends for children, research-based information is needed to ascertain if children's well-being is associated with maternal age. If so, research is needed to help identify the process by which children's well-being is associated with maternal age.

Purpose

The purpose of this study was to investigate the maternal age at the transition to parenthood as a predictor of first-born children's perceptions of well-being. Children's well-being in the areas of socioemotional performance and educational performance were of particular interest, including their reports of their educational performance; relationships to their parents and other family members; and their reports of self-esteem, externalizing problem behaviors, and overall well-being.

Conceptual Perspective

Several concepts from theory and research are related to the association of children's well-being with maternal age at the transition to parenthood. The life-course perspective is useful in explaining why parents who make the transition to parenthood at nonnormative ages may have different characteristics from those who make the transition at normative ages. A concept that is helpful in explaining why maternal age at the transition to parenthood may have implications for children's well-being is availability of resources. The availability of resources to parents and children, including financial

capital, human capital, and social capital, also may be associated with maternal age at the transition to parenthood and may be predictive of children's well-being.

Maternal Life Course

Much research concerning timing of first birth is focused on the parents and is based on the life-course theoretical perspective (Cooksey, 1997; Deitch, 1992; Garrison, Blalock, Zarski, & Merritt, 1997; Heath, 1994; Heuvel, 1988, McLaughlin & Micklin, 1983; Roosa, 1988). From this perspective, an individual's ability to adapt to new roles generated by major life events is dependent on the timing and sequencing of the events (McLaughlin & Micklin). A deviation from societal norms, such as early or late birth timing, could place individuals at risk psychologically, economically, and socially in relation to their cohort (McLaughlin & Micklin; Soloway, 1985). If feelings of being "off-time" are persistent, parents may experience distress in their parenting roles and have reduced feelings of self-efficacy (Deitch).

Parenting self-efficacy has been defined as "an estimation of the degree to which parents perceive themselves as capable of performing the varied tasks associated with this highly demanding role" (Coleman & Karraker, 1997, p. 47). Research generally has supported an association between high maternal self-efficacy and adaptation of parenting skills such as sensitivity and responsiveness to infant signals (Teti, O'Connell, & Reiner, 1996). Parental sensitivity has been associated with social competence and intellectual achievement in children (Broom, 1994). Because making the transition to parenthood at a nonnormative age might be associated with a reduction in parental self-efficacy,

becoming a first-time parent during adolescence or at an older than normative age could be associated with negative consequences for children

The assumption that outcomes of life-course transitions at nonnormative ages will be associated with negative outcomes for individuals does not allow for positive outcomes for parents who make the transition to parenthood at a nonnormative age. Neither can the life-course perspective be used to explain how a mother's being out of sync with her life course would necessarily be predictive of problems for her children who are on course in their development

Availability of Resources

The availability of resources, specifically financial capital, human capital, and social capital, provides a logical explanation for prediction of children's well-being based on maternal age at the transition to parenthood. Through the resources or capital that they possess, parents create the first and potentially most influential environments that their children experience. Mothers who make the transition to parenthood at very young ages are likely to have fewer resources to provide for their children's needs than adult mothers have. Availability of some types of capital may decline for older adults, potentially placing their children at risk as well. Because capital is not distributed evenly within age groups, use of this perspective allows for more variation in outcomes for children regardless of their mothers' ages

Financial capital Financial capital is a term that describes financial wealth or income available to individuals or families for provision of physical resources necessary to meet basic needs and wants (Coleman, 1988). Adolescent mothers are less likely than

adult mothers to have acquired financial assets such as savings; regular and adequate income; and investments such as a home, insurance, or other types of investments that could help provide for their physical needs and the needs of their children. If they do not marry, young mothers have even fewer opportunities for acquisition of financial assets

Financial capital tends to increase with age as persons make investments and receive pay increases for experience and skills learned. The implication is that persons who wait until adulthood to make the transition to parenthood are likely to have more financial capital available to provide for the needs of their families, which could result in greater well-being for their children. However, financial capital might not continue to increase with age. At retirement, financial capital may be reduced as retirement benefits may be the only source of income. Increased expenses related to health problems may strain those resources even further. Therefore, the oldest first-time parents, especially those who retire before their children reach adulthood, may not be able to provide as well for the needs of their children as do couples who make the transition to parenthood at normative ages and whose children leave home before the parents retire from their jobs.

Human capital Human capital generally is used to describe levels of education, knowledge, and skills that a person possesses (Coleman, 1988). It also can be used to describe such things as gender, IQ, age, academic achievement, religiosity, and levels of self-esteem (Dyk & Wilson, 1999). Adolescent parents are likely to have lower levels of education and job-related skills than adult first-time parents have (Furstenberg, Brooks-Gunn, & Chase-Lansdale, 1989). Lack of education and skills can restrict the adolescent parent's ability to acquire financial capital because of the limited job opportunities

afforded persons with low educational levels and inadequate skills. The lack of education and training also could result in adolescent parents' provision of less cognitively enriching environments for their children than those provided by older, better educated parents.

Because human capital tends to increase with age, parents who make the transition to parenthood at normative ages or even at older ages are likely to have gained knowledge and skills through their experiences and through formal education and training to help in maintaining an adequate income for their families. Their higher levels of education and knowledge gained through experience may influence them to provide more cognitively stimulating environments for their children as well.

Social capital. Social capital has been defined as the "potential benefits, advantages, and preferential treatment resulting from one person or group's sympathy and sense of obligation toward another person or group. . . [and] toward his or her idealized self" (Social Capital Interest Group, p. 1). Social capital is embedded in relationships that are useful for the cognitive or social development of a child (Coleman, 1990). Such relationships include those between parents and children, those among members of extended families, and relationships between families and community members or institutions of the community.

Social capital provides a means for the transmission of human capital between parents and children and between the community and the family (Coleman, 1988). Teachman, Paasch, and Carver (1997) found evidence that social capital combines with human and financial capital to produce better educational outcomes. Two factors that can

create and destroy social capital include closure, which refers to the connectedness among members of a group, and stability of the social structure (Coleman, 1990)

For most infants, primary foundational interactions are with their parents, especially their mothers. The concept of closure is helpful in describing how infants learn to develop a sense of trust. Closure, the mutual reliance upon one another in a group, is instrumental in creating an environment in which trust can be built (Coleman, 1990). Infants whose parents respond when they cry learn that their needs will be met and develop a sense of trust in their parents. Children whose needs are not met adequately are unlikely to develop a sense of well-being and may have difficulty developing the sense of trust necessary to have successful human relationships (The World Bank Group, 1999). Adolescent mothers who are in the process of developing their own identities may have difficulty focusing on the needs of an infant at the expense of their own needs. This could lead to inconsistent or neglectful responses by adolescent mothers when their infants cry or otherwise demonstrate need. Inconsistent or neglectful parenting may stunt development of an infant's sense of trust

Older first-time mothers are more likely than adolescents to have reached the stage of maturity to have a well-defined sense of self that would allow them to put their child's needs above their own. According to The World Bank Group (1999), "the family's ability to meet children's physical and emotional needs strongly influences the child's perceptions of the trustworthiness of others outside the family" (p. 1)

Stability is another factor associated with the creation or destruction of social capital (Coleman, 1990). According to Coleman, disruption of social relationships can be

very destructive to social capital. Adolescents are more likely than adults to provide an unstable environment for their children. In 1992, 75% of all teens who gave birth were not married (U.S. Bureau of the Census, 1994). This means that the involvement of the father is likely to be sporadic or nonexistent. A later marriage by a teen parent creates another change in social relationships. Persons who marry as teens have a divorce and separation rate nearly twice that of older persons (Martin & Bumpass, as cited in Larson & Holman, 1994). Therefore, those who marry during their teen years are more likely to divorce than those who marry at an older age, creating disruption in that relationship for the child. Lack of financial capital may result in more frequent moves for the mother and child which results in loss of relationships as well.

Adult parents, especially those who are over 30 at the birth of their first child are more likely than adolescent parents to own their own homes and to have steady jobs and are less likely to divorce. Their lives are likely to be ordered and stable. Older age at first marriage is not associated with greater marital instability than the norm (Martin & Bumpass, as cited in Larson & Holman, 1994). This stability should help in the creation of social capital between parents and their children and between the family and the community.

Belsky (1984) theorized that the persons most able to provide the responsive and attuned care that children need are mature, psychologically healthy adults. Although maturity and psychological health cannot be assumed to accompany older age, adults are more likely to have the maturity necessary to provide a stable and supportive environment for their children than are adolescents.

In addition to the social capital inherent in the parent-child relationship, the social capital provided through relationships with the larger community can have an impact on the well-being of children. Parents who have strong ties to their extended families and to other community members have a greater wealth of resources on which to draw than do those with weak or nonexistent ties outside the immediate family.

Mothers who make the transition to parenthood at nonnormative ages may have fewer social ties with mothers whose children's ages are similar to those of their own children than would mothers who make the transition to parenthood at normative ages. This lack of social capital among new mothers of nonnormative ages and those who are sharing similar experiences could result in fewer persons with whom to discuss child-rearing problems and from whom to seek advice. There might be fewer opportunities for children whose mothers are of nonnormative ages to make friends with age-mates outside of school and childcare settings than would be easily available to children whose parents are of normative ages. Because of the age difference, parents of nonnormative ages might be less likely to be acquainted with and to socialize with the parents of their children's friends than would parents who made the transition to parenthood at a normative age. These factors could reduce the social capital available to both mothers and children in families where the mother made the transition to parenthood at a nonnormative age.

Teen mothers who have close relationships with their parents may be able to provide a more stable environment for their children than those whose relationships with their parents are adversarial. The social capital available to teen mothers through close relationships with their parents may result in the mother and child living with her parents,

thus providing the child with additional close relationships that can expand social capital of the child and provide the environment within which the child can develop trust. For older first-time mothers, assistance may not be available from their own mothers, but they are likely to have friends who have gone through the experience of raising children who can provide them with assistance and advice.

Parenting Attributes

The attributes a mother brings to the role of parent may be associated with her age at the transition to parenthood. Parental tendencies toward negativity may be increased through financial strain, limited support systems, and lack of experience on which to base expectations. Adolescent mothers are more likely to experience these situations than are normative-aged and older first-time mothers. Parental use of praise and awareness of children's activities, friends, and habits may be enhanced when available financial, human, and social capital are adequate to meet individual and family needs. This is most likely for mothers who make the transition to parenthood at normative or older ages.

Parenting attributes are likely to influence children's well-being. Negative interactions between family members have been associated with poor outcomes for children (Barth & Parke, 1993; Baumrind, 1978; Gottman, 1994). Positive parent-child relationships and parental warmth have been associated with positive outcomes for children (Baumrind, Herman & McHale, 1993).

Conceptual Model

The conceptual model for this research contains concepts from the perspectives of maternal life course, availability of resources, and parenting attributes. As shown in

Figure 1, maternal age at the transition to parenthood is associated conceptually with availability of resources, including financial capital in the form of income, human capital in the form of educational attainment, and social capital in the forms of number of child's siblings and marital status of the parents. These forms of capital are made available to the children through the parent-child relationship, which is influenced conceptually by the parenting attributes of praise; negativity, and awareness of children's friends, activities, and spending habits. Children's perceptions of parenting attributes logically may be seen as influencing children's perceptions of well-being.

Thus, maternal age theoretically is predictive of marital stability, education completed by the mother, family income, and the number of children born to the mother (the latter through an inverse relationship). These factors are theorized to be related to parenting attributes of praise; negativity; and awareness of children's activities, friends, and habits. It is logical that children whose parents possess greater amounts of financial capital, human capital, and social capital would be likely to report greater well-being than children whose parents possess lesser amounts of these forms of capital. However, transmission of those types of capital to children is theorized to occur through the parent-child relationship. Theoretically, parenting attributes serve as markers for the parent-child relationship. Therefore, parenting attributes are likely to be more direct predictors of children's perceptions of well-being than are maternal age and the measures of capital. Children's gender and race, though they have not been associated with maternal age at the transition to parenthood, are included in the model because of their potential association with children's perceptions of well-being.

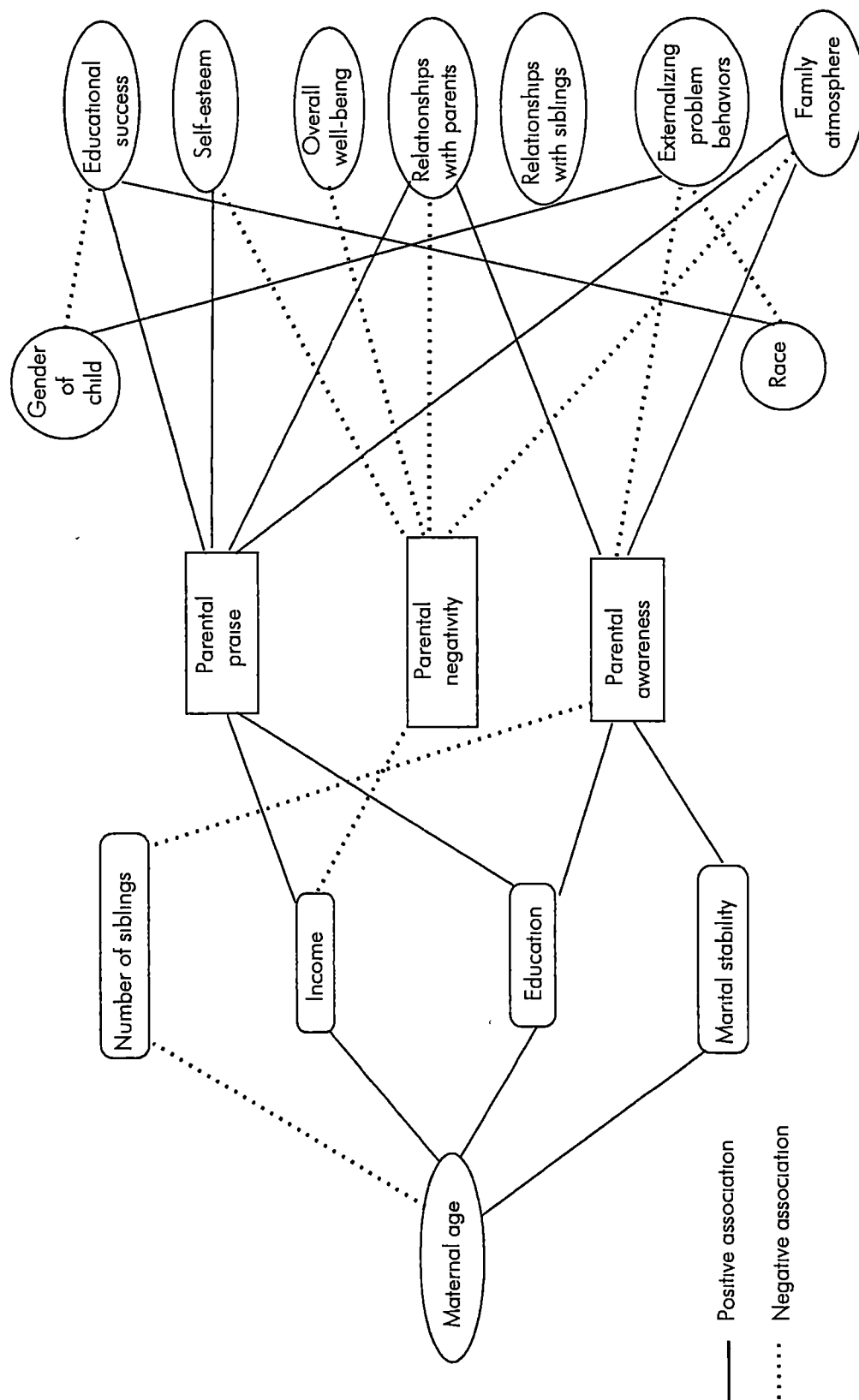


Figure 1. Proposed model of relationship of maternal age at transition to parenthood to parenting attributes and children's perceptions of well-being

Note. Maternal age refers to mother's age at the transition to parenthood

Conceptual Definitions

Maternal age at the transition to parenthood refers to the age of the mother at the time of the birth of her first child. The early years of a child's life are the most critical for development. If children's well-being is associated with maternal age at the transition to parenthood, it is likely to have its origins in the interactions between mother and child during those earliest years.

Resources are the forms of capital available to families. Financial capital consists of the monetary resources available to the family. Human capital is the education, skills, and experience that, in combination, form the knowledge base of the parent. Social capital is the potential benefits and advantages available through relationships within the family and between the family and the community.

Parenting attributes are the characteristics or behaviors that parents exhibit in carrying out the role of parent. Parenting attributes are contributors to parent-child relationships. It was the child's perceptions of parenting attributes that were of interest in this study because perceptions are central to the definition of a situation. As W. I. Thomas said, "If [people] define situations as real, they are real in their consequences" (Thomas & Thomas, as cited in Garbarino, 1982).

Children's perceptions of well-being is a phrase used to describe children's perceptions of their lives in the areas of educational performance, family relationships, and assessments of self. Children's well-being can be assessed in different domains. Two key areas are educational performance and socioemotional performance:

1. Educational performance refers to how well a child does in school or other academic endeavors. Intellectual development, as demonstrated by educational performance, is an important predictor of future success because of its relationship to the amount of education that a person will complete. Researchers have found that educational attainment is predictive of success in careers, in finances, and in social standing (Alwin & Thornton, 1984; Henry, 1994; Mare & Tzeng, 1989).

2. Socioemotional performance refers to the behaviors, attitudes, and beliefs that characterize actions in social situations with peers, parents, and other adults. Goleman (1995) found that emotional intelligence, which he defined as the ability to regulate emotions and impulses and to empathize with others, was a better predictor of future success than IQ because emotional intelligence influences how the child relates to self and others throughout life. Persons who lack interpersonal skills may find it difficult to acquire and retain a job, a spouse, or friends.

Assumptions

The major assumption undergirding this research is that parents are the most important influences on children's perceptions of well-being. Maccoby (1992) reported that the family has been seen as a major—possibly the major—arena for child socialization. Children who experience positive family relationships are most likely to experience feelings of well-being. Vygotskian theorists recognize the role of parents as providing the structure within which children are able to learn (Maccoby, 1992). Researchers studying brain development have identified the first 3 years of life as the key period for formation of neural pathways that create connections within the brain to allow

thought processes, emotions, and unconscious functions to operate (Shore, 1997).

Because parents most often have been the primary caregivers during the early years of children's lives, in this new research the emphasis is on the importance of the quality of parenting in giving children a solid foundation that can lead to overall well-being.

A second assumption underlying this research is that it is important to study children's perceptions of well-being in relation to maternal age at the transition to parenthood because the pattern of parenting is formed with the first-born child. Choosing first-born children also provides a control for birth order of children. Theoreticians in the field of Adlerian psychology have emphasized that birth order plays a substantial role in the socialization and development of children and thus that children of differing birth orders in the same family have different characteristics based on the differences in their family constellations (Dreikurs, 1958). Dreikurs and Soltz (1964) theorized that first-born children from two different families will be more alike than will the first-born and second-born children in the same family.

Another assumption underlying the present research is that maternal age at the transition to parenthood has a potentially greater impact on children than does paternal age. This assumption is based on the seeming lack of concern expressed about older fathers and the much greater public speculation about and medical monitoring of older mothers. Also, teen mothers are more scrutinized and blamed for the outcomes of their children than are teen fathers. Part of this is related to the societal norms that give mothers the greater responsibility for caring for their children from infancy to adulthood.

Chapter 2

Review of Related Literature

Timing of first birth has been the topic of numerous studies in recent years. The bulk of this research has been focused on young first-time parents and their children because of the concern generated by the large numbers of teen parents. As the number of older first-time parents has increased, researchers have become interested in studying this group as well.

Parental Age as a Variable in Research

Often age of parent has been used as an independent or control variable in studies of the relationship between parenthood and child outcomes. Age of parent has been linked to other variables that may influence child outcomes, most notably socioeconomic status (SES). Many researchers have found an association of high SES with better outcomes for children (Alwin & Thornton, 1984; Barratt, 1991; Christ et al., 1990; Cooney, Pederson, Indelicuto, & Palkovitz, 1993; Geronimus, Korenman, & Hillemeier, 1994; Kinard & Reinherz, 1987; Orlebeke, Knol, Boomsma, & Verhulst, 1998, Philliber & Graham, 1981, Standley, Soule, Copans, & Klein, 1978, Thomson, Hanson, & McLanahan, 1994). In both research and the popular press, there has been an assumption that, because delayed childbearers generally are better educated and have higher incomes than younger childbearers, these characteristics will translate into better lives for their children (Nord, 1988). Conversely, for children of early childbearers who are more likely

to have low levels of education and income, there has been an assumption that being raised in those homes will be associated with poorer outcomes (Ventura & Hendershot, 1984).

Various age ranges have been used to define young, normative-aged, and older first-time parents. Early or young parents have been identified by ages ranging from 18 years and under (Kinard & Reinherz, 1986) to 25 years and under (Orlebeke et al., 1998). Researchers have used various ages from 25 to 35 years as the beginning point for the age at which persons are classified as older parents (Coltrane, 1990; Heath, 1994; Morris, 1988; Nord, 1988; Roosa, 1988; Schlesinger & Schlesinger, 1989; Yarrow, 1991). McLaughlin and Micklin (1983) identified only two groups for their study; young parents were age 18 or younger and normative-aged parents were age 19 or over. Mercer, Hackley, and Bostrom (1982) identified young parents as those under the age of 20, normative-aged parents as those ages 20 through 29, and older parents as those age 30 or over at the birth of their first child. These differences in definitions for what constitutes young, normative, or older parents make it difficult to compare results across studies.

The methodology for defining parental age has varied across studies. Some researchers have used quartiles or other percentages within samples to define parental age. Heath (1994) used the National Survey of Families and Households (NSFH) Wave 1 data to establish the age for defining older first-time fathers as 35 years of age and older. She calculated the mean age for first-time fatherhood for the total sample and accepted the age two standard deviations above the mean as the baseline for defining older first-time fathers (Heath, 1994). Other researchers have used the ages at which pregnant

women are considered to be at risk medically for defining maternal age groupings. Young mothers generally have been identified as those under the age of 20 (Ventura & Hendershot, 1984) and older mothers as those over the age of 35 (DeVore, 1983; Mansfield, 1988).

Variables Associated With Parental Age at Transition to Parenthood

The focus of research on parental age and child outcomes have changed as scientists and practitioners have identified critical issues at different points in time. Early research on maternal age at the birth of the first child was focused on health implications for the mother and child. As medical techniques have improved the chances for survival of infants born to high-risk mothers, the focus of research has been shifted toward socioemotional and cognitive outcomes of children. The most recent shift has been to explore the mechanisms that may explain relationships between parental age and child outcomes.

Health Risks

Researchers in the late 1970s and early 1980s focused their investigations of implications for maternal age and child outcomes around health issues for both mothers and children. Potential risks for mothers included fetal losses for younger and older mothers (Ventura & Hendershot, 1984), stress-induced complications for older mothers (Mansfield, 1988), high rates of hypertension in black women aged 35 and older (Grimes & Gross, 1981), and high rates of spontaneous abortion (DeVore, 1983). Risks of nonnormative maternal age for infants included low birth weights and low Apgar scores for infants of teen mothers and infants of older mothers (Ventura & Hendershot, 1984);

higher neonatal morbidity, fetal mortality, and congenital abnormalities for children of mothers over age 40 (Horger & Smythe, 1977); and high incidence of Down's syndrome for children of mothers over the age of 35 (DeVore, 1983).

Family Processes

More recently, researchers have begun to study the association of parental age with family processes, including parenting practices (Cooney et al , 1993; Finley, 1998; Heath, 1994; Morris, 1987; Neville & Parke, 1997; Walter, 1989) and family functioning (Heuvel, 1988; Miller & Moore, 1990). These family processes have implications for parent-child relationships, an important mediator in the transmission of financial capital, human capital, and social capital between parents and children

Adaptation to parenthood. One area of researchers' interest has been the relationship of maternal age at transition to parenthood to mothers' adaptation to the parenting role. Researchers who have compared older first-time mothers with younger mothers have reported somewhat contradictory results.

In some research, older first-time mothers have been found to have poorer adaptation to motherhood than their younger counterparts. Deitch (1992) found that mothers with higher educational attainment, higher socioeconomic status, higher occupational prestige, and older maternal age had greater difficulty in adjusting to parenthood than did mothers who were of younger ages and of lower educational and financial status. She found that women who delayed childbearing until after their 30th birthday reported perceptions of being "off-time" and being more committed to the work world than did mothers who experienced childbirth prior to age 30 years (Deitch, 1992).

Mercer et al (1982) reported that though older mothers had higher scores on the maternal role attainment continuum, they derived less satisfaction from that role than did younger and normative-aged mothers

In other research, older first-time mothers have been found to have positive experiences with parenting. Ragozin, Basham, Crnic, Greenberg, and Robinson (1982) found that maternal age at birth of the first child was predictive of mothers' reports of greater satisfaction with parenting, greater time commitment to that role, and more positive behaviors in mother-infant interactions. Their sample of 105 mother-infant dyads included mothers ranging in age from 16 to 38 (Ragozin et al.). Older first-time parents in Geffner's (1991) qualitative study reported very positive feelings in association with their new roles as parents and indicated that they viewed older age as more of an asset than a liability in fulfilling those roles. In their exploratory study, Garrison et al. (1997) found that older first-time parents' scores on standardized instruments revealed that they were less depressed, felt less restricted in the parenting role, and felt more competent as parents in comparison to the established normative scores. Persons who made the transition to parenting at older than normative ages were found to be more egalitarian in their parenting roles (Daniels & Weingarten, 1982; Saucier, 1987) and to be more committed to dual careers and sharing of household tasks and child care than were younger couples (Coltrane, 1990)

Results of research on adolescent mothers have been less positive overall. McLaughlin and Micklin (1983), in a 3-year longitudinal study, reported that having a first birth before 19 years of age was predictive of a reduction in personal efficacy

regardless of age, education, parental socioeconomic status, or personal efficacy prior to giving birth; however, participants who experienced on-time births or remained childless experienced increases in personal efficacy over the period of the study. Miller and Moore (1990) found that adolescent mothers were more likely than older mothers to report that their infants were difficult or moderately difficult to raise, although independent observers assessed the infants as less difficult than did the mothers. Older mothers were less likely to perceive that their infants were difficult to raise (Miller & Moore).

Other researchers have found no differences between mothers of different ages in relation to parental role variables. Mercer et al (1982) found no differences among younger, normative, and older first-time mothers in maternal role attainment. Roosa (1988) found no developmental differences between late-time and on-time birth parents.

Parenting behaviors. Researchers have noted differences in parenting behaviors that have been associated with age. In research that was restricted to parenting behaviors of mothers, younger mothers reported fewer caretaking responsibilities and more social time away from their infants than did older mothers (Ragozin et al., 1982), and they demonstrated poorer competency behaviors than did normative-aged and older mothers (Barratt, 1991; Mercer et al., 1982). Other researchers have found no independent relationship of the age of the mother to patterns of caretaking, mother-child interactions, and patterns of discipline (Philliber & Graham, 1981) or in degree of strictness, method of punishment, child anxiety, or happiness with the family (Nord, 1988). However, the samples in these studies differed greatly by ethnicity, SES, and ages used to define older and normative-aged mothers, rendering comparison of results questionable.

Various researchers have reported differences in parent-child interactions for older first-time parents in comparison to younger or normative-aged parents. Older mothers have been found to be more sensitive to and responsive to infant signals than younger mothers (Broom, 1994). Older first-time fathers have been found to spend more time with their children, to have higher expectations for their children's behavior, and to be more nurturant than normative-aged fathers (Heath, 1994); they also have been found to be more highly involved with their children than younger fathers and to exhibit more positive paternal affect (Cooney et al., 1993). Neville and Parke (1997) found that younger fathers used more physical stimulation as a method of engaging their children in play, whereas older fathers relied on verbal mechanisms more often when playing with their children.

Cooney and colleagues (1993) created a typology of level of involvement and affect for first-time fathers: (a) uninvolved/negative affect, (b) involved/negative affect, (c) uninvolved/positive affect, and (d) involved positive affect. They found differences among fathers in relation to age, with normative-aged fathers being more than twice as likely as older first-time fathers to be classified as uninvolved/negative affect and only about 40% as likely as older first-time fathers to be classified as involved/positive affect (Cooney et al., 1993). The modal type for young fathers was uninvolved/positive affect, whereas the modal type for normative-aged fathers was uninvolved/negative affect (Cooney et al.). Finley (1998) found a curvilinear relationship between father's age at birth of a child and the child's perceptions in late adolescence of the father's affective quality of fathering. Fathers in the age range of 35 through 39 years at the birth of the

child were rated the most favorably in affective quality of fathering in comparison to fathers in the two younger age groups and fathers in the oldest age group (Finley, 1998). No association between mothers' ages and affective quality of mothering was noted (Finley).

Not all researchers have found use of a more positive parenting style by older first-time parents. In several qualitative studies, some children of older parents have reported that their parents used a more hands-off approach to parenting, one that led them to feel unwanted or unimportant. Yarrow (1991) encountered some research participants who indicated that their parents seemed not to want to be bothered with them and to be detached in their emotional style. This was especially troubling for only children of single parents (Yarrow). Morris (1987) indicated that the great age gap between older parents and their children was identified as a problem by some children. These children regretted their parents not having done things with them, not talking to them, and not being actively involved with their lives (Morris, 1987).

Children's Well-Being

Researchers have investigated links between parental age at children's births and children's emotional and cognitive development (Barratt, 1991, Christ et al., 1990; Cooksey, 1997; Dubow & Luster, 1990; Furstenberg et al., 1989; Garrison et al., 1997; Hubbs-Tait, Osofsky, Hann, & Culp, 1994, Kinard & Reinherz, 1987; Mare & Tzeng, 1989, Moore & Snyder, 1991; Orlebeke et al., 1998; Spieker, Larson, Lewis, White, & Gilchrist, 1997). This shift in the focus of research indicates a recognition that parents

have a potential impact on their children far beyond the contribution of genetic material and healthy prenatal practices.

Several parenting attributes or parental characteristics have been identified that are related to children's well-being. In addition to SES, maternal characteristics that have been associated with child academic and/or socioemotional outcomes include age (Zybert, Stein, & Belmont, 1978), marital status (Thomson et al., 1994; Ventura & Hendershot, 1984), occupational prestige (Ventura & Hendershot), intelligence (Barratt, 1991; Moore & Snyder, 1991), self-esteem (Dubow & Luster, 1990; Hubbs-Tait et al., 1994), antisocial personality (Christ et al., 1990), and depression (Hubbs-Tait et al.). Also associated with child outcomes have been level of maternal and paternal support (Henry, 1994; Thomson et al.), paternal age (Mare & Tzeng, 1989), and parental punitiveness (Henry).

Educational performance of children. Researchers have reported a relationship between parental age and academic outcomes for children. In carefully controlled studies, researchers have found direct relationships between maternal age at birth of child and subsequent IQ scores of children (Zybert, Stein, & Belmont, 1987) and between fathers' ages and sons' educational attainment and adult occupational status (Mare & Tzeng, 1989). Nord (1988) found that children of older mothers were more likely to be described as good students and to be judged as doing better overall by their teachers, to be rated as more intelligent by interviewers, and to have higher scores on the Peabody Picture Vocabulary Test (PPVT) than were children of younger parents.

Researchers have found adolescent children of young first-time mothers to have markedly lower school achievement than children of normative-aged and older child bearers (Furstenberg et al., 1989). Moore and Snyder (1991) found that for first-born Caucasian children, scores on the PPVT were related directly to the age of the mother at transition to parenthood. However, this association did not hold for African-American and Hispanic-American children, for whom having a younger mother at birth was associated with higher PPVT scores even after controls were introduced (Moore & Snyder). Thus, ethnicity or cultural differences may moderate the relationship between parental age and academic performance of children.

Kinard and Reinherz (1987) found that children of younger and older adolescent mothers were not different from children of mothers in their early 20s with respect to academic ability and performance when controlling for gender, birth order, family structure, and maternal education. There was an interaction between maternal age and birth order for children's mathematical achievement scores; first-born children of teens and later-born children of older mothers had higher scores than did later-born children of teens and first-born children of older mothers (Kinard & Reinherz). Conversely, Cooksey (1997) found no relationship between parental age and mathematical ability of the child but did find a relationship between maternal age and reading recognition; children of the youngest mothers in the sample were lower in reading recognition than were children born to mothers in their early 20s. The strength of the relationship was reduced when measures of available human, financial, and social capital were introduced (Cooksey).

Socioemotional performance of children Researchers have found relationships between parental age at birth of a child and the child's socioemotional performance. Orlebeke et al. (1998) found that maternal reports of problem behaviors were related inversely to maternal age at birth of the first child, even when controlling for covariance with other variables; most of the variance involved externalizing behaviors. Spieker et al. (1997) found that children of adolescent mothers had more mild behavior disorders, especially under control of behavior, than did children of normative-aged or older mothers. Most of the difference was mediated through family structure, maternal education, and family size (Spieker et al.). Nearly 75% of their sample of children of adolescent mothers exhibited behavior problems, underachievement in school, or both (Spieker et al.). Furstenberg et al. (1989) found that preschool children of teen mothers were rated as being more active and aggressive and as possessing less self-control than preschool children of normative-aged or older parents

Researchers using qualitative research methods have reported both positive and negative associations between older parental age and socioemotional outcomes for children. Morris (1987) reported that approximately half of the respondents in her study of children of older parents stated that they had positive feelings about having older parents or that they were unaffected by their parents' advanced ages. However, the remaining participants perceived negative impacts of having older parents, and most of them did not recommend choosing to become parents at an older age (Morris). Yarrow (1991) found that children of older parents reported positive influences of their parents on their maturity and personalities and indicated that they were comfortable socializing with

older persons and authority figures. However, many children of older parents also reported feeling awkward in social interactions with their peers (Yarrow, 1991), a tendency to be loners in social situations (Morris, 1988; Yarrow), and feelings of loneliness (Schlesinger & Schlesinger, 1989).

Mechanisms for Association Between Children's Well-Being and Parental Age

Even though it is useful to know if children's well-being is associated with maternal age at the transition to parenthood, it is especially important to know the mechanisms by which this association occurs. Is it related purely to the resources parents bring to the relationship, or does the parent-child relationship facilitate the transfer of available capital to their child, enhancing the child's sense of well-being?

SES, as operationalized in various studies, can be conceptualized as a combined measure of human capital in the form of educational attainment, financial capital in the form of income, and social capital in the form of occupational prestige. As already noted, high SES has been associated with positive outcomes for children. Age also has been associated positively with SES. Parental age at the transition to parenthood may be associated with parent-child relationships, the proposed conduit for the transmission of various forms of capital between parents and children.

Parental Age and Children's Socioemotional Performance

Some researchers have studied parenting practices in relation to children's socioemotional performance. These parenting practices are likely to be associated with the parent-child relationship. Researchers have found that social capital—what parents do with their children, their demonstrations of affection for children, and the experiences

they bring to the relationships—are more important than is mere presence of both parents (Parcel, Nickoll, & Dufur, 1996; Wenk, Hardesty, Morgan, & Blair, 1994). Parenting practices that might enhance parent-child relationships include time spent with children (Cooney et al., 1993; Heath, 1994) and nurturing behaviors (Heath, 1994), both of which have been found to be associated positively with older paternal age. Morris (1987) reported that some children of older parents perceived their parents as being more stable and patient than the normative-aged parents they observed, characteristics that have been identified as enhancing the development of social capital (Coleman, 1990).

Nord (1988) theorized that negative outcomes for children of older first-time mothers may be related to reduced energy and declining health of the mother and to increasing stress in the form of pressures of caring for elderly parents, raising young children, and coping with job demands simultaneously. Thus, older mothers may have less time and energy (human capital) to expend on their children during their formative years. Christ et al. (1990) reported that the association of child conduct problems with young maternal age was mediated through low SES and maternal antisocial personality.

Parental Age and Children's Educational Performance

Several researchers have investigated the demographic characteristics associated with age as possible mediators of child cognitive outcomes. Financial capital, human capital, and physical capital have been identified as possible mechanisms for the transmission of positive cognitive outcomes.

Spieker et al. (1997) reported that most of the cognitive outcomes for children of adolescent mothers were mediated through family structure, maternal education, and

family size. Researchers have found that maternal educational level is much more important than maternal age in predicting child cognitive outcomes (Barratt, 1991; Kinard & Reinherz, 1987; Schneider & Coleman, 1993).

Moore and Snyder (1991) found that the level of stimulation in the child's home environment was associated with children's scores on the PPVT. Alwin and Thornton (1984) reported that there was no association between maternal age and PPVT scores for Caucasian children when measures of stimulation in the home environment were included. When control variables were included, there was a change in direction of the relationship for some ethnic and racial groups. The greater use of verbal stimulation of their infants by older fathers in comparison to younger fathers was theorized to provide cognitive stimulation for their children (Neville & Parke, 1997).

Researchers have found an inverse relationship between number of siblings and educational performance (Alwin & Thornton, 1984; Downey, 1995). Because of the limited number of fertile years remaining, older first-time mothers are less likely to have multiple children over the course of their lives than are younger first-time mothers. Thus, children of older first-time mothers have a potential advantage over children of younger mothers of having few or no siblings with whom to have to share parental resources.

Socioeconomic advantages of the family, a situation that is more likely to be found in families with older first-time parents, are predictive of better school attendance than is common for children from economically disadvantaged families. Regular school attendance for children is associated with higher occupational status and higher paying jobs as adults (Alwin & Thornton, 1984; Henry, 1994). Powell (personal communication,

July 6, 1997) found a positive linear relationship between parental age and investment of social capital, interpersonal capital, and human capital in children and the children's subsequent educational attainment. However, willingness of parents to make economic sacrifices was lower for parents of older ages than for younger parents (Powell).

Issues in Research on Parental Age and Children's Well-Being

Human research is fraught with problems in relation to methodology, sample selection, data sources, and the multiple variables that can be associated with any single issue. Research on the relationship of children's well-being to parental age at the transition to parenthood is no exception.

Methodological Issues

Results of research using parental age as an independent variable have been mixed. These differences may be explained in a number of ways.

One factor is the variety of research methods that have been used in studies. Research methods used include quantitative or qualitative research with small numbers of participants (Geffner, 1991; Morris, 1987; Neville & Parke, 1997), cross-sectional studies (Christ et al., 1990; Finley, 1998; Garrison et al., 1997; Philliber & Graham, 1981; Spieker et al., 1997), longitudinal studies (Hubbs-Tait et al., 1994; Kinard & Reinherz, 1987; Mercer et al., 1982; Ragozin et al., 1982), and secondary data analysis using national data sets with relatively large numbers of participants (Barratt, 1991; Blanchard & Zucker, 1994; Geronimus et al., 1994; Cooksey, 1997; Cooney et al., 1993; Heath, 1994; Heuvel, 1988; Mare & Tzeng, 1989; McLaughlin & Micklin, 1983; Moore & Snyder, 1991; Orlebeke et al., 1998; Zybert et al., 1978).

Sampling methods for research involving parental age and child outcomes have included convenience samples (Finley, 1998), purposive samples (Daniels & Weingarten, 1982; Morris, 1987), voluntary samples (Garrison et al., 1997; Neville & Parke, 1997; Philliber & Graham, 1981; Roosa, 1988, Spieker et al., 1997), clinical samples (Christ et al., 1990), and representative samples (Kinard & Reinherz, 1987; Zybert et al., 1978). The sampling method has implications for being able to generalize results to the larger population and to comparisons across studies.

Use of different independent or control variables may have contributed to inconsistent results across studies. Most researchers have controlled for or accounted for SES in their studies but have used differing measures for SES (Christ et al., 1990; Neville & Parke, 1997; Philliber & Graham, 1981; Rothenberg & Varga, 1981; Zybert et al., 1978). Some have used educational attainment of the mother or father. Others have used a combination of educational status, income, and occupational prestige. Some researchers have controlled for birth order or presence of siblings (Kinard & Reinherz, 1987; Zybert et al.). Others have controlled for prenatal practices of the mother such as smoking or prenatal care as potentially confounding factors (Ventura & Hendershot, 1984). Some researchers have controlled for family background of the mother (Geronimus et al., 1994; Mare & Tzeng, 1989). Still others have used comparison groups or normative scores as comparisons (Garrison et al., 1997; Horger & Smythe, 1977; Roosa, 1988). These differences in methodology have made it difficult to make comparisons across studies.

Gaps in Research

Most researchers using parental age as a predictor variable have focused their studies on younger or teen parents (Nord, 1988; Wilkie, 1981). Other researchers have directed their studies toward implications for the parents rather than assessing child outcomes (Eggebeen & Uhlenberg, 1989; Nord). Some researchers studying parental age in relation to child outcomes have not distinguished between children of older first-time parents and children of parents who began their families at a normative age but who had additional offspring at a nonnormative age. This approach does not take into consideration the potential differences in child outcomes that might be accounted for by birth order and number of siblings. In addition, much research concerning the relationship of parental age to children's well-being has been limited to retrospective reports by children after they have reached adulthood or has been restricted to reports of parents or others in assessing children's well-being.

Researchers have recognized the need to include children in studies focused on the relationship of parental age to child outcomes (Heath, 1994; Roosa, 1988; Schlesinger & Schlesinger, 1989). However, children's reports of their perceptions about themselves and their parents largely have been ignored. According to Bronfenbrenner (1979), the perceptions of children concerning the environments in which they live have greater influence on their outcomes than does the environment itself. Therefore, it is important to study children's perceptions of their parents, their families, and their lives in order to understand the relationship of children's well-being to maternal age at the transition to parenthood.

Chapter 3

Methodology

One question was central to this research project: Is maternal age at the transition to parenthood predictive of children's perceptions of well-being? The question was addressed in five components:

- 1 Is maternal age at the transition to parenthood predictive of children's perceptions of well-being?
2. Are measures of capital (human, financial, and social) associated with maternal age at the transition to parenthood?
- 3 Are measures of capital predictive of children's well-being?
4. Are parenting attributes associated with maternal age at the transition to parenthood?
- 5 Are parenting attributes predictive of children's well-being?

Research Design

This research was conducted using cross-sectional correlational secondary data analysis. Maternal age at the transition to parenthood was the independent variable. The dependent variables were several dimensions of children's well-being: educational performance, overall well-being, self-esteem, family atmosphere, relationships with parents, relationships with siblings, and externalizing problem behaviors. In addition, three parenting attributes parental praise; parental negativity, and parental awareness of

friends, activities, and spending habits of the child. Included as controls were selected demographic characteristics: family income, mother's educational level completed, number of child's siblings, status of parents' marriage, gender of the child, and race of the mother.

Sample

The National Survey of Families and Households (NSFH) is a national, stratified, multistage area probability sample based on 1985 population projections for Standard Metropolitan Statistical Areas and nonmetropolitan counties (Sweet, Bumpass, & Call, 1988). There were 13,010 adult primary respondents from Wave 1 and 6,099 secondary respondents who were spouses or partners of the primary respondents (Bumpass & Sweet, 1988). Minorities and single parents, persons with stepchildren, cohabiting persons, and persons who were recently married were double-sampled (Bumpass & Sweet). In the second wave of data collection, 1,415 children who were at least 10 years of age and no older than 17 years of age and who had been selected as focal children at Wave 1 were interviewed (Sweet & Bumpass, 1996).

Selection

The sample for the present research was drawn from the focal children who were interviewed in the second wave of data collection for the National Survey of Families and Households (NSFH2). The sample was narrowed to children who were the first-born offspring of the main adult respondents and their spouses. First-born children were selected for this research for several reasons: (a) to control for differences among children that might be related to birth order rather than to parental age or some other predictor, (b)

because they are the children by whom parents establish their pattern for parenting as they make the transition to parenthood, and (c) to maintain as large a pool of participants as possible

The age of the biological first-born child was calculated by subtracting the birth date for the first-born child, as reported by the main adult respondent, from the date of the interview. The result was compared to the reported age of the focal child at the time of the parent interview in Wave 1. If the ages matched, the focal child was identified as being a first-born child and was included in the sample. This narrowed the sample to 2,307 children. Children who were respondents in Wave 2 were selected for the sample, which reduced the number to 563. The sample was narrowed further to include children who were biological first-born children of the spouses (secondary respondents). This resulted in a sample of 273 children. The sample was narrowed to include children whose parents were married to each other at the time of the Wave 1 survey. Female main and secondary respondents then were selected for purposes of the research, resulting in a sample of 267. A final cleaning of the sample yielded some cases that did not fit the criteria or that could not be confirmed to fit the criteria. These cases were deleted, resulting in a final sample of 250 mother-child dyads.

Description

The mean age for their mothers at the time of the birth of the participants in this research was 24.9 years ($N = 250$, $SD = 4.5$). At the time of the child interview in Wave 2, this sample of first-born children had a mean age of 12.8 years ($N = 250$, $SD = 2.3$). There were 133 males (53.2%) and 117 females (46.8%), and the mean number of

siblings for the sample of children was 1.27 ($SD = 0.97$). The mean number of years of education completed by the mothers at the time of the Wave 2 survey was 13.63 ($N = 249$, $SD = 2.41$); this figure is equivalent to some education beyond a high school diploma. Mean family income at Wave 2 for this sample was \$54,276 ($N = 234$, $SD = \$33,944$). Of the mothers, 198 (79.5 %) were white and 51 (20.5%) were nonwhite. The biological parents of these children were married at the time the child was born and at the first wave of interviews for the NSFH. Between that time and the second wave of interviews, 10% ($n = 25$) of the marriages were interrupted by death, divorce, or separation; the remaining 90% of marriages ($n = 224$) remained intact. See Table 1 for descriptive information about the research sample by age groups for mothers' age at transition to parenthood.

The variable for inclusion in the main sample was used to identify whether the participants were in the NSFH oversampled group or in the main sample. Of the mothers in this sample, 214 (85.6%) were in the main sample. The remaining 36 (14.4%) were in the oversampled group; 24 (47.1%) of the nonwhite participants were in the oversampled group and 27 (52.9%) were in the main sample. Among the participants who were white, only 12 (6.1%) were in the oversampled group compared to 186 (93.9%) who were in the main sample.

Measurement

Data for this research were taken from the National Survey of Families and Households (NSFH) Wave 1 (Bumpass & Sweet, 1988), conducted from March 1987 through May 1988, and Wave 2 (Sweet & Bumpass, 1996), conducted from 1992 through

Table 1

Demographic Characteristics of Families and Children

Demographic characteristics	Maternal age at transition to parenthood					Total
	< 19	19-22	23-29	30-34	35+	
Maternal age at transition to parenthood	9	55	145	33	8	250
Number of focal child's siblings						
0	2	5	20	14	2	43
1	3	29	76	17	4	129
2	2	13	39	1	1	56
3	0	6	7	0	1	14
4	2	1	2	0	0	5
5	0	1	0	0	0	1
7	0	0	1	0	0	1
Maternal education						
Less than high school completion	4	12	4	0	1	21
High school diploma	5	31	42	8	2	88
Some college	0	10	44	8	1	63
Bachelor's degree	0	0	35	9	2	46
Some graduate school or graduate degree	0	1	20	8	2	31

(table continues)

Table 1 (continued)

Table 1 (continued)

Demographic characteristics	Maternal age at transition to parenthood					Total
	< 19	19-22	23-29	30-34	35+	
Family income						
Less than \$20,000	2	5	14	2	1	24
\$20,001 - \$40,000	2	19	34	2	1	58
\$40,001 - \$60,000	4	19	38	4	2	67
\$60,001 - \$80,000	1	3	33	10	3	50
\$80,001 - \$100,000	0	0	9	8	0	17
Over \$100,000	0	1	11	5	1	18
Marital status since Wave 1						
Marriage intact	8	44	134	31	8	225
Marriage interrupted	1	11	11	2	0	25
Maternal race						
Nonwhite	0	11	32	7	1	51
White	9	44	113	25	7	198
Child's gender						
Female	6	26	69	13	3	117
Male	3	29	76	20	5	133

Note. Numbers refer to frequencies of participants.

August 1994. Information was collected through (a) interviews with adults, who were called primary respondents, and (b) a series of self-administered questionnaires completed by selected primary respondents who had children under 18 living in the household and by spouses or partners of primary respondents (Sweet et al., 1988). These primary respondents and their spouses or partners, known as secondary respondents, were asked a series of questions concerning a focal child selected from among the children in the household (Sweet et al.). In the second wave of data collection, focal children participated in telephone interviews (Sweet & Bumpass).

No information was available on the validity of the items used for the child interviews in the NSFH2. Some of the items were identical to those used for the adult interviews, but the validity of using those same items with children was not addressed. The NSFH questionnaires were developed by a University of Wisconsin team that adapted some items from existing scales, used some items from previous surveys and standardized instruments, and developed others based on concepts that they thought were important (NSFH)

Some data transformation was necessary for creation of the variables used in the present research. Most of the questions from the children's interviews involved responses to Likert-type scales. These responses were combined to create variables representative of parenting attributes and dimensions of children's well-being and parenting attributes. Responses used to create each of these variables were adjusted to common metrics so that each item contributed equally to the variable. For example, some items involved a 5-point scale, and other items used for the same variable involved a 4-point scale. In order to

equalize the items, the ratings on the 5-point scale were multiplied by 0.8, making them equivalent to the 4-point scale. This allowed responses to all items used to construct a variable to be summed to create a score. Variables were recoded, where necessary, so that higher scores indicated higher levels of the characteristic.

In constructing the children's well-being and parenting attribute variables to be used in the current research, principal components factor analyses with Varimax rotation and Kaiser normalization were conducted for each group of items being considered to create variables. Items were not included in a variable if they had a factor loading score of less than .40. Variables were tested for reliability using Cronbach's alpha. If an item reduced the reliability appreciably for a given variable, it was not included in the variable. A Cronbach's alpha of .60 was the minimum level of reliability accepted for a variable. See Table 2 for items used in and reliability coefficients of the constructed variables.

Maternal Age at the Transition to Parenthood

Maternal age at the transition to parenthood. This figure was calculated by subtracting the age of the first-born child, as reported by the primary respondent, from the age of the mother at the time of the interview. Maternal age at transition to parenthood was used as a continuous variable in answering the research questions. However, a grouping variable for maternal age at the transition to parenthood was made to help in describing the sample and to show differences in availability of capital across the age groups. The variable contained five categories. (a) mothers who were less than 19 years of age, (b) mothers who were 19 through 22 years of age, (c) mothers who were 23

Table 2

Predictor and Criterion Variables Constructed from National Survey of Families and Households (NSFH) Wave 2 Data

Variable	Survey items used	Actual range of scores	Cronbach's alpha	N ^e
Parental awareness	Parents know friends ^a Parents know how you spend your money. ^a Parents know how you spend time. ^a	3 - 15	.70	246
Parental praise	How often does mother praise you? ^a How often does father praise you? ^a	2 - 10	.84	232
Parental negativity	How often do parents threaten to take privileges? ^a How often does mother criticize? ^a How often do parents yell or shout? ^a How often does father criticize? ^a	4 - 19	.69	233
Self-esteem	I can do just about anything I really set my mind to do. ^a I feel that I am a person of worth, at least on an equal basis with others ^a I am able to do things as well as most other people ^a On the whole, I am satisfied with myself. ^a	8 - 16	.64	241
Family atmosphere	Family is fun. Family is tense. ^a Family expresses love Family members feel distant. ^a Family is a team	5 - 20	.69	246

(table continues)

Table 2 (continued)

Variable	Survey items used	Actual range of scores	Cronbach's alpha	N ^e
Relationship with parents	Would you talk with your mother/father if you were depressed? Would you talk with your mother/father if you needed to make a decision? How much do you admire your mother/father? ^b How would you describe your relationship with your mother/ father? ^b	6 - 40	.85	234
Educational performance	What sort of grades do you get? ^c How much education do you think you will get?	3 - 10	.63	245
Externalizing problem behaviors	At what age did you have your first drink? ^d Last year, how many times did you get into a fight at school? ^d During the last year have you skipped school or cut class? ^d How many cigarettes have you smoked per day on average in the last month? How old were you the first time you used drugs? ^d Have you ever had sexual intercourse?	0 - 1	.68	250

^a Variables reverse coded so that higher scores mean more of the characteristic being measured.

^b Multiplied by .5 to have equal weights for all items contributing to the variable.

^c Recoded to five levels to have same range as other item

^d Recoded to 1 if the externalizing problem behavior was reported and 0 if the externalizing problem behavior was not reported.

through 29 years of age, (d) mothers who were 30 through 34 years of age, (e) and mothers who were 35 years or older at the birth of their first child.

Children's Well-Being

Several dimensions of children's well-being were measured. Scales were constructed from items in the child interviews for the following variables: (a) educational performance, (b) relationships with parents, (c) relationships with siblings, (d) externalizing problem behaviors, (e) self-esteem, and (f) family atmosphere. In addition, a global self-assessment of overall well-being was included.

The variable for externalizing problem behaviors was recoded into a dichotomous variable so that a score of 1 indicated presence of one or more externalizing behavior problems and a score of 0 indicated no reported externalizing behavior problems. This was done because the number of participants who indicated any particular behavior problems was small, and when scores were summed for all measures related to behavior problems, the number of participants for each level of externalizing behavior problems was too small for the statistical tests.

Parenting Attributes

Three measures of parenting attributes were created. Scales were constructed from items in the children's interviews for the following variables: parental encouragement; parental negativity; and parental awareness of children's activities, friends, and spending habits.

Demographic Variables

A set of demographic characteristics was selected from or constructed from the data. These included mother's race, coded 1 for white and 0 for nonwhite; child's gender, coded 0 for female and 1 for male; and whether or not the family was from the main sample or from an oversampled group in the NSFH data set, coded 0 for the main sample and 1 for the oversampled group. Demographic characteristics used as measures of capital included total family income as a measure of available financial capital, number of siblings and status of the parents' marriage since Wave 1 as measures of available social capital, and education completed by the mother (constructed using data from Wave 1 about the amount of education completed as reported by the main respondent and the secondary respondent or spouse and the additional education received since Wave 1 as reported in Wave 2) as a measure of available human capital. Marital status was coded with a 1 for an intact marriage at Wave 2 and with a 0 if the marriage was interrupted for whatever reason.

Analysis Strategies

Before the variables were used in analyses to answer the research questions, they were tested for normality. Scatter plots, histograms, normality tests, and tests for skewness and kurtosis were performed on all variables. None of the variables tested normal using the Lilliefors test, a modification of the Kolmogorov-Smirnov test for normality. However, most goodness-of-fit tests are very sensitive to large sample numbers (SPSS, 1999). Another test for normality of data is to calculate the ratio of skewness to its standard error (SPSS). Normality can be rejected if the ratio is less than -2

or greater than +2 (SPSS). Using this test, the distributions for child's gender, family income, self-esteem, relationships with siblings, externalizing behavior problems, and the amount of education completed by the mother were accepted as normal. A log transformation of parental negativity rendered that variable normal using the ratio method. Other transformations for the family atmosphere, relationships with parents, and educational success were tested, including logarithm, square, and square root. None of these transformations of the remaining variables improved the normality of their distributions. All variables were retained for use in regression analyses because the sample was relatively large and further tests for goodness of fit of the model could be conducted after the regressions were computed.

Variables were tested for multicollinearity. Eigenvalues were obtained by factoring the scaled, uncentered cross-products matrices of the independent variables (SPSS, 1999). Several Eigenvalues close to 0 could indicate possible problems with intercorrelation. Condition indices were calculated with indices greater than 15 indicating possible problems for four variables and indices over 30 indicating serious problems with collinearity for one of the variables (SPSS). Variance proportions indicated the variance of the estimate accounted for by each principal component. Those components with high condition index scores that contributed substantially to the variance of two or more variables were indicative of multicollinearity problems (SPSS). Though several of the variables were problematic with respect to multicollinearity, these variables were included in analyses because part of the research question was to discover the relationships among these variables

When cases had missing data for any item used to construct a variable, they were eliminated from analysis for that variable. However, they were included in analyses where they had complete data for the variables being studied. This resulted in variation in the sample size for each analysis.

A seventh-order partial correlation of the independent and dependent variables was run controlling for child's gender, mother's race, status of the parents' marriage at Wave 2, family income, mother's educational level, and number of child's siblings. A zero-order correlation was run for all variables, including the controls.

Logistic regression was used to test the dichotomous dependent variable of externalizing problem behaviors. Multiple hierarchical regressions were computed with the remaining dependent variables by entering the predictor variables in blocks. The first block was the independent variable of maternal age, the second block consisted of the demographic variables, and the third block contained the parenting attributes variables. Regressions using backward and forward methods were computed to check the results.

A test for goodness of fit of the regression models was conducted for each of the dependent variables by comparing the standard error of the estimate to the standard deviation of the dependent variable. If the standard deviation was equal to or greater than the standard error of the estimate, the mean of the dependent variable was considered to be as good at predicting the scores of another sample of participants as the model identified in the regression analysis.

Data were not weighted for analysis because several of the oversampled groups in the NSFH data set had been eliminated through the process of narrowing the sample. In

addition, no claims were made about representativeness of the sample or generalizability to the entire U S. population.

A level of $p = .05$ was used as the criterion for significance. All analyses were conducted using a one-tailed test of significance.

Chapter 4

Results

The results of this research provided support for the association of maternal age at transition to parenthood with measures of financial, human, and social capital, and with some of the measures of children's well-being. There was some support for the association of parental attributes to availability of capital. The strongest associations were between the parenting attributes and the measures of children's overall well-being.

Relationship of Demographic Variables and Parenting Attributes to Maternal Age at Transition to Parenthood

A zero-order partial correlation showed the relationships between the independent variable, mother's age at the transition to parenthood, and the demographic variables. The number of siblings reported was negatively associated with maternal age at the transition to parenthood, $r(247) = -.24$, $p = .00$. Maternal level of education completed was related to age at transition to parenthood, $r(247) = .42$, $p = .00$. Family income was related positively to maternal age, $r(232) = .35$, $p = .00$. Marital status at Wave 2 compared to Wave 1 was related positively to maternal age at transition to parenthood, $r(248) = .13$, $p = .02$. Race of the mother and gender of the child were not related to maternal age at the transition to parenthood nor was inclusion in the NSFH oversampled group.

One of the research questions addressed through this research was if there was a relationship between maternal age at the transition to parenthood and the parenting

attributes of parental negativity; parental praise; and parental awareness of the child's activities, habits, and friends. In the zero-order partial correlation, maternal age at the transition to parenthood was related to parental praise, $r(230) = .13$, $p = .03$, as was parental awareness of the child's activities, $r(244) = .15$, $p = .01$. Parental negativity was not related to maternal age at birth of the first child. In the seventh-order partial correlation controlling for educational level completed by the mother, total family income, gender of the child, number of siblings, status of the marriage at Wave 2 compared to Wave 1, race of the mother, and whether the case was in the main sample or the oversampled group, the parenting attributes were not related to maternal age at transition to parenthood. See Table 3 for seventh-order partial correlation coefficients.

Multicollinearity was a problem within this data set because many of the variables were intercorrelated. Multicollinearity was a potential problem with considering race, marital status, and parental negativity together and a large problem with simultaneous consideration of parental praise and parental awareness. For example, for the dependent variable measuring children's perceptions of overall well-being, parental awareness explained 99% of the variance in the constant and 42% of the variance in parental negativity. Parental praise explained 45% of the variance attributed to maternal age and 81% of the variance attributed to maternal educational level. Marital status explained 52% of the variance in parental praise and 45% of the variance in parental awareness. The remaining variables accounted for major portions of the variance for only one variable; therefore, multicollinearity was not considered a problem with those variables.

Table 3

Intercorrelations Among Maternal Age at Transition to Parenthood and Children's Perceptions of Well-Being and of Parenting Attributes

Variables	2	3	4	5	6	7	8	9	10	11
1 Maternal age ^a	10 (222)	12* (219)	11 (183)	-05 (224)	15* (220)	20*** (224)	-00 (217)	11 (221)	-10 (218)	10 (217)
2 Family atmosphere		61*** (219)	35*** (183)	-13* (222)	29*** (220)	28*** (222)	23*** (217)	38*** (221)	-45*** (218)	-39*** (217)
3 Relationships with parents			35*** (183)	-22** (219)	21** (219)	42*** (219)	25*** (217)	33*** (219)	-43*** (218)	39*** (217)
4 Relationships with siblings				-12 (183)	15* (183)	12 (183)	06 (183)	11 (183)	-22** (183)	23** (182)
5 Externalizing problem behaviors					-11 (220)	-10 (224)	-00 (217)	-27*** (221)	24*** (218)	-05 (217)
6 Educational success						23*** (220)	17** (217)	20** (220)	-17** (218)	13* (217)
7 Overall well-being							17** (217)	26*** (221)	-31*** (218)	19** (217)
8 Self-esteem								02 (217)	-12* (216)	228* (217)
9 Parental awareness									-26*** (216)	23*** (217)
10 Parental negativity										-18** (217)
11 Parental praise										

(table continues)

Notes This is a seventh-order partial correlation matrix controlling for maternal educational level, family income, number of focal child's siblings, maternal race, status of Wave 1 marriage at Wave 2, child's gender, and whether the participant was included in the oversampled group in the National Survey of Families and Households (NSFH) Numbers in parentheses are degrees of freedom

^aMaternal age refers to the age of the mother at the time of transition to parenthood

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

Maternal Age at Transition to Parenthood as a Predictor of Children's Well-Being

Maternal age at the transition to parenthood was associated with measures of children's well-being via two pathways. Individually it was predictive of children's educational performance and of children's reports of overall well-being. It was indirectly predictive of some aspects of children's well-being through its associations with demographic variables

Children's Educational Performance

Maternal age at transition to parenthood was predictive of children's perceptions of educational performance, $F(1, 217) = 10.57, p = .00$. Thus, children whose mothers were older at the transition to parenthood reported greater educational success than did children of younger first-time mothers.

The only demographic variable predictive of children's educational success was gender of the child. Girls were more likely to report educational success than were boys. Maternal age again was a significant predictor in that model, $F(8, 210) = 3.73, p = .00$.

However, when the parenting attributes variables were entered into the model, the only significant predictor remaining was the child's gender, $F(11, 207) = 3.73, p = .00$. The R^2 for the full model was .12, indicating that this model accounted for 12% of the variance in educational success. See Table 4 for regression results.

Children's Overall Well-Being

Maternal age at the transition to parenthood was predictive of children's perceptions of overall well-being, $F(1, 221) = 7.62, p = .01$. Overall, children of older

Table 4

Summary of Hierarchical Regression Analyses for Prediction of Children's Perceptions of Educational Performance

Variable	<u>B</u>	<u>SE B</u>	B	p
Step 1				
Maternal age at transition to parenthood	6.47	0.02	0.21	.00
Step 2				
Maternal age at transition to parenthood	4.90	0.22	0.16	.03
Number of child's siblings at Wave 2	7.21	0.11	0.05	.52
Education completed by mother at Wave 2	5.71	0.04	0.10	.19
Gender of focal child	-0.50	0.18	-0.18	.01
Family income group	5.15	0.04	-0.09	.21
Race of mother	0.42	0.26	0.09	.11
Status of Wave 1 marriage at Wave 2	0.77	0.50	0.11	.12
Membership in oversampled group	0.36	0.30	0.09	.23
Step 3				
Maternal age at transition to parenthood	3.91	0.02	0.13	.08
Number of child's siblings at Wave 2	7.89	0.11	0.05	.48
Education completed by mother at Wave 2	4.85	0.04	0.08	.27
Gender of focal child	-0.41	0.18	-0.15	.02
Family income group	6.01	0.04	0.11	.14
Race of mother	0.31	0.26	0.09	.23
Status of Wave 1 marriage at wave 2	0.62	0.50	0.09	.21
Membership in oversampled group	0.25	0.30	0.06	.41
Child's perception of parental negativity	-0.39	0.26	-0.10	.15
Child's perception of parental praise	4.38	0.05	0.81	.42
Child's perception of parental awareness of child's activities	8.20	0.04	0.14	.05

Notes N = 218. Adjusted R^2 = .04 for Step 1, ΔR^2 = .05 for Step 2, ΔR^2 = .03 for Step 3 ($p < .001$)

first-time mothers gave more positive assessments of how their lives were going than did children of younger first-time mothers.

The addition of the demographic variables to the model contributed to the predictive power of the model, $F(8, 214) = 3.67, p = .00$. Family income was related inversely to children's perceptions of overall well-being. Higher levels of family income were associated with children's lower ratings of overall well-being, and lower levels of family income were associated with children's higher ratings of overall well-being. Being in the main sample also was related to how the children rated their lives. Children in the oversampled group were more likely to rate their overall well-being more highly than were those in the main sample, and those in the main sample were more likely to rate their overall well-being lower than were those in the oversampled group.

The addition of the parenting attributes variables improved the predictive power of the model, $F(11, 211) = 6.01, p = .00$, but parental negativity was the only parenting attribute that was significant. Parental negativity was related inversely to children's perceptions of overall well-being. Income group remained a significant predictor in that model. The adjusted R^2 for the full model was .20, indicating that the model accounted for 20% of the variance in children's perceptions of overall well-being.

However, the predictive power of this model was poor. A comparison of the standard error of the estimate (1.31) to the standard deviation (1.44) in children's overall well-being indicated that the mean of the variable may be as good at prediction of well-being as this model would be at prediction of perceptions of well-being for a different sample of children. See Table 5 for regression results.

Table 5

Summary of Hierarchical Regression Analyses for Prediction of Children's Perceptions of Overall Well-Being

Variable	<u>B</u>	<u>SE B</u>	B	p
Step 1				
Maternal age at transition to parenthood	5.86	0.54	0.18	.01
Step 2				
Maternal age at transition to parenthood	6.74	0.02	0.21	.01
Number of child's siblings at Wave 2	1.36	0.12	0.01	.91
Education completed by mother at Wave 2	8.42	0.05	1.81	.07
Gender of focal child	-0.32	0.19	-0.11	.09
Family income group	-0.13	0.04	-0.21	.00
Race of mother	0.20	0.28	0.05	.48
Status of Wave 1 marriage at Wave 2	0.55	0.53	0.07	.30
Membership in oversampled group	0.79	0.31	0.19	.01
Step 3				
Maternal age at transition to parenthood	5.14	0.02	0.16	.02
Number of child's siblings at Wave 2	3.48	0.11	0.02	.76
Education completed by mother at Wave 2	7.24	0.04	1.65	.10
Gender of focal child	-0.20	0.18	-0.07	.28
Family income group	-0.11	0.04	-0.18	.01
Race of mother	1.12	0.26	0.00	.97
Status of Wave 1 marriage at Wave 2	0.47	0.50	0.06	.35
Membership in oversampled group	0.51	0.30	0.06	.09
Child's perception of parental negativity	-1.07	0.26	-0.26	.00
Child's perception of parental praise	8.50	0.05	0.10	.11
Child's perception of parental awareness of child's activities	7.50	0.04	0.12	.08

Notes: $N = 222$. Adjusted $R^2 = .03$ for Step 1 ($p < .01$), $\Delta R^2 = .06$ for Step 2 ($p < .01$), $\Delta R^2 = .11$ for Step 3 ($p < .001$).

Family Atmosphere

Maternal age at the transition to parenthood was not predictive of children's perceptions of family atmosphere, $F(1, 220) = 2.85, p = .09$. The demographic variables as a group resulted in better prediction of family atmosphere than did maternal age, though the only demographic variable that was individually significant as a predictor of family atmosphere was the child's gender, $F(8, 213) = 2.28, p = 2.28$. Girls tended to give higher ratings for family atmosphere than did boys.

The full model had the greatest predictive power, $F(11, 210) = 13.05, p = .00$. When the parenting attributes were introduced into the model, the adjusted R^2 increased to .38, showing that the model containing all of the predictor variables accounted for 38% of the variance in the children's ratings of family atmosphere. All three of the parenting attributes were predictive of the criterion variable. Parental negativity was related inversely to family atmosphere. Thus, children who perceived that their parents were negative tended to give low ratings for family atmosphere, and those who did not perceive their parents to be negative tended to give more favorable ratings for family atmosphere. Parental praise was related directly to children's perceptions of family atmosphere, as was parental awareness. See Table 6 for regression results.

Relationships with Parents

Maternal age at the transition to parenthood was not predictive of children's perceptions of their relationships with their parents, $F(1, 221) = 3.10, p = .08$. The regression model was significant when the demographic variables were introduced, $F(8, 214) = 2.28, p = .02$. However, the only demographic variable individually related to

Table 6

Summary of Hierarchical Regression Analyses for Prediction of Children's Perceptions of Family Atmosphere

Variable	<u>B</u>	<u>SE B</u>	B	p
Step 1				
Maternal age at transition to parenthood	7.07	0.04	0.11	.09
Step 2				
Maternal age at transition to parenthood	4.89	0.05	0.08	.30
Number of child's siblings at Wave 2	-2.07	0.24	-0.07	.38
Education completed by mother at Wave 2	0.18	0.09	0.15	.06
Gender of focal child	-0.92	0.38	-0.16	.02
Family income group	-0.12	0.09	-0.10	.18
Race of mother	-0.17	0.55	-0.02	.80
Status of Wave 1 marriage at Wave 2	0.70	1.05	0.05	.51
Membership in oversampled group	0.78	0.63	0.10	.22
Step 3				
Maternal age at transition to parenthood	-3.21	0.04	-0.01	.93
Number of child's siblings at Wave 2	-0.17	0.19	-0.05	.39
Education completed by mother at Wave 2	0.12	0.08	0.10	.12
Gender of focal child	-0.45	0.31	-0.08	.15
Family income group	4.62	0.07	-0.04	.51
Race of mother	-0.74	0.45	0.10	.11
Status of Wave 1 marriage at Wave 2	0.25	0.87	0.02	.78
Membership in oversampled group	-0.11	0.52	-0.02	.82
Child's perceptions of parental negativity	-2.93	0.46	-0.37	.00
Child's perceptions of parental praise	0.43	0.09	0.27	.00
Child's perceptions of parental awareness of child's activities	0.26	0.07	0.21	.00

Notes. $N = 221$. Adjusted $R^2 = .01$ for Step 1; $\Delta R^2 = .03$ for Step 2 ($p < .05$), $\Delta R^2 = .33$ for Step 3 ($p < .001$)

relationships with parents was family income. This indicates that children whose families had higher income levels tended to give lower assessments of their relationships with their parents than did children whose family incomes were lower.

The model that included the parenting attributes was a substantially better predictor of children's perceptions of their relationships with their parents, $F(11, 211) = 11.09, p = .00$. Each of the parenting attributes was predictive of relationships with parents. Parental negativity was associated inversely with relationships to parents. Children who perceived that their parents were highly negative tended to give lower ratings for their relationships with parents, and children who did not perceive their parents to be as negative tended to give higher ratings for their relationships with parents. Parental praise and parental awareness were associated directly with relationships with parents. Children's perceptions of higher levels of parental praise and parental awareness of children's activities were associated with higher ratings for relationships with parents, and perceptions of lower amounts of praise and parental awareness were associated with lower ratings for relationships with parents. The R^2 for the full model was .33, meaning the model accounted for 33% of the variance in relationships with parents. See Table 7 for regression results.

Relationships With Siblings

Maternal age at the transition to parenthood was not predictive of children's perceptions of their relationships with siblings, $F(1, 182) = .05, p = .83$. The model including demographic variables was a much better predictor of relationships with siblings $F(8, 175) = 1.81, p = .08$. However, only mother's race was related individually

Table 7

Summary of Hierarchical Regression Analyses for Prediction of Children's Perceptions of Relationships With Parents

Variable	<u>B</u>	<u>SE B</u>	B	p
Step 1				
Maternal age at transition to parenthood	0.15	0.09	0.12	.08
Step 2				
Maternal age at transition to parenthood	0.16	0.10	0.13	.09
Number of child's siblings at Wave 2	-0.42	0.49	-0.06	.39
Education completed by mother at Wave 2	0.13	0.19	0.05	.49
Gender of focal child	-0.26	0.77	-0.02	.74
Family income group	-0.35	0.17	-0.15	.05
Race of mother	-0.31	1.14	-0.02	.78
Status of Wave 1 marriage at Wave 2	3.02	2.16	0.10	.16
Membership in oversampled group	2.52	1.28	0.15	.05
Step 3				
Maternal age at transition to parenthood	5.88	0.08	0.05	.47
Number of child's siblings at Wave 2	-0.37	0.41	-0.06	.37
Education completed by mother at Wave 2	2.36	0.16	0.01	.88
Gender of focal child	0.53	0.66	0.05	.42
Family income group	-2.32	0.15	-0.10	.12
Race of mother	-1.36	0.96	0.09	.16
Status of Wave 1 marriage at Wave 2	2.23	1.84	0.08	.23
Membership in oversampled group	0.76	1.09	0.05	.49
Child's perceptions of parental negativity	-5.62	0.96	-0.35	.00
Child's perceptions of parental praise	0.93	0.19	0.29	.00
Child's perceptions of parental awareness of child's activities	0.38	0.15	0.15	.01

Notes. $N = 222$. Adjusted $R^2 = .01$ for Step 1 ($p < .01$), $\Delta R^2 = .03$ for Step 2 ($p < .001$), $\Delta R^2 = .29$ for Step 3 ($p < .001$)

to how siblings got along. Children with nonwhite mothers reported better relationships with their siblings than did children whose mothers were white. In the model containing the parenting attributes, the predictive strength of maternal race was greater, $F(11, 172) = 2.62$, $p = .00$. Parental negativity was associated inversely with children's perceptions of their relationships with siblings. Children who perceived that their parents were negative tended to give lower ratings for relationships with siblings, and children who did not perceive their parents to be negative tended to give higher ratings for relationships with siblings. The model containing all the variables was the best predictor of relationships with siblings, but the R^2 was .09, indicating that the model accounted for only 9% of the variance in sibling relationships. See Table 8 for regression results.

Self-Esteem

Maternal age at the transition to parenthood was not predictive of children's perceptions of self-esteem, $F(1, 216) = .74$, $p = .39$. The model including maternal age and the demographic variables was not predictive of self-esteem, $F(8, 209) = 1.73$, $p = .09$.

However, the full model containing maternal age, demographic variables, and parenting attributes was significant, $F(11, 206) = 2.58$, $p = .00$. In the full model, family income and parental praise were directly related to self-esteem. Higher family income levels and higher levels of parental praise were associated with children's reports of higher self-esteem, and lower incomes and lower levels of praise were associated with lower self-esteem. Even though the model containing all of the predictor variables had the best predictive power, the model was not predictive of self-esteem. A comparison of the

Table 8

Summary of Hierarchical Regression Analyses for Prediction of Children's Perceptions of Relationships with Siblings

Variable	<u>B</u>	<u>SE B</u>	B	p
Step 1				
Maternal age at transition to parenthood	3.35	0.02	0.02	.83
Step 2				
Maternal age at transition to parenthood	1.79	0.02	0.08	.32
Number of child's siblings at Wave 2	1.68	0.10	0.01	.86
Education completed by mother at Wave 2	-5.53	0.03	-0.15	.09
Gender of focal child	-2.05	0.13	-0.01	.88
Family income group	5.43	0.03	0.02	.86
Race of mother	-0.40	0.19	-0.18	.04
Status of Wave 1 marriage at Wave 2	-0.56	0.34	-0.14	.11
Membership in oversampled group	5.44	0.21	0.02	.80
Step 3				
Maternal age at transition to parenthood	6.43	0.02	0.03	.72
Number of child's siblings at Wave 2	3.54	0.10	0.00	.97
Education completed by mother at Wave 2	-6.08	0.03	-0.16	.06
Gender of focal child	-1.41	0.13	-0.00	.99
Family income group	1.85	0.03	0.05	.54
Race of mother	-0.48	0.19	-0.21	.01
Status of Wave 1 marriage at Wave 2	-0.57	0.34	-0.14	.09
Membership in oversampled group	-8.28	0.21	-0.03	.70
Child's perception of parental negativity	-0.49	0.19	-0.20	.01
Child's perception of parental praise	6.83	0.04	0.14	.07
Child's perception of parental awareness of child's activities	7.53	0.03	0.02	.81

Notes. $N = 183$. Adjusted $R^2 = .00$ for Step 1, $\Delta R^2 = .03$ for Step 2, $\Delta R^2 = .06$ for Step 3 ($p < .01$)

standard error of the estimate to the standard deviation of the dependent variable shows that those numbers are nearly identical ($SE = 1.52$, $SD = 1.57$). This indicates that the mean of self-esteem would be as good as the model at predicting the score for self-esteem in other samples. See Table 9 for regression results.

Externalizing Problem Behaviors

The model that was most accurate for prediction of children's reports of externalizing problem behaviors was the model that included all variables: maternal age at transition to parenthood, demographic variables, and variables representing parenting attributes. In the classification table, the full model was 69% accurate in prediction of the group in which a child would be placed (i.e., has externalizing problem behaviors, or has no externalizing problem behaviors). The model that included only maternal age at the transition to parenthood, was 58% accurate in predicting placement of children in the behavior groups, and the model containing maternal age and the demographic variables was 64% accurate. See Table 10 for predicted and actual incidence of externalizing problem behaviors for the model containing all predictors.

The strongest predictor variable in the full model was parental awareness. For every unit increase in parental awareness, a child was less likely to be in the externalizing problem behavior group by a factor of 0.76. This indicates that children who perceived lower levels of parental awareness were most likely to exhibit one or more externalizing problem behaviors and children who perceived higher levels of parental awareness were less likely to exhibit externalizing problem behaviors. Parental negativity was associated with externalizing problem behaviors. For each unit increase in parental negativity,

Table 9

Summary of Hierarchical Regression Analyses for Prediction of Children's Perceptions of Self-Esteem

Variable	<u>B</u>	<u>SE B</u>	B	p
Step 1				
Maternal age at transition to parenthood	2.04	0.02	0.06	.39
Step 2				
Maternal age at transition to parenthood	1.04	0.02	0.00	.97
Number of child's siblings at Wave 2	-7.34	0.13	-0.04	.58
Education completed by mother at Wave 2	-8.85	0.05	-0.00	.99
Gender of focal child	-0.39	0.21	-0.12	.07
Family income group	9.06	0.05	0.14	.06
Race of mother	0.30	0.31	0.07	.34
Status of Wave 1 marriage at Wave 2	0.44	0.59	0.06	.46
Membership in oversampled group	-0.31	0.35	-0.07	.38
Step 3				
Maternal age at transition to parenthood	-8.99	0.03	-0.03	.74
Number of child's siblings at Wave 2	-8.85	0.13	-0.05	.50
Education completed by mother at Wave 2	-1.66	0.05	-0.03	.75
Gender of focal child	-0.34	0.21	-0.11	.12
Family income group	0.10	0.05	0.16	.04
Race of mother	0.25	0.31	0.06	.42
Status of Wave 1 marriage at Wave 2	0.40	0.59	0.05	.50
Membership in oversampled group	-0.50	0.35	-0.10	.15
Child's perceptions of parental negativity	-0.44	0.31	-0.10	.16
Child's perceptions of parental praise	0.20	0.06	0.22	.00
Child's perceptions of parental awareness of child's activities	-3.80	0.05	-0.06	.45

Notes. $N = 217$. Adjusted $R^2 = .04$ for Step 1 ($p < .01$), $\Delta R^2 = .05$ for Step 2 ($p < .001$), $\Delta R^2 = .03$ for Step 3 ($p < .001$)

Table 10

Classification Table for Predictors of Externalizing Problem Behaviors in Children

Observed	Predicted		Accuracy of prediction
	Has no problem behaviors	Has problem behaviors	
Has no problem behaviors	102	27	55%
Has problem behaviors	42	52	79%

Notes The cut value is .50. Predictors in this model included maternal age at the transition to parenthood, education completed by mother at Wave 2, total family income, focal child's number of siblings, gender of child, status of marriage at Wave 2 compared to Wave 1, race of mother, inclusion in oversampled group, parental awareness, parental praise, and parental negativity. The overall accuracy of prediction was 69%.

children were more likely to exhibit one or more externalizing problem behaviors by a factor of 3.91. Child's gender was a significant predictor of externalizing problem behaviors. Males were more likely than females to exhibit externalizing problem behaviors by a factor of 2.01. Number of siblings was inversely associated with externalizing problem behaviors. For each increase in number of siblings, the likelihood of exhibiting externalizing problem behaviors decreased by a factor of 0.66. Statistics for the logistic regression are in Table 11.

Table 11

Summary of Logistic Regression Analysis for Prediction of Children's Reports of ExternalizingProblem Behaviors

Variable	<u>B</u>	<u>SE B</u>	Odds ratio	<u>p</u>
Maternal age at transition to parenthood	-0.00	0.04	0.99	.88
Education completed by mother at Wave 2	-0.11	0.08	0.89	.13
Family income group	0.07	0.07	1.07	.35
Number of siblings	-0.41	0.20	0.66	.04
Gender of focal child	0.70	0.31	2.01	.03
Status of Wave 1 marriage at Wave 2	0.18	0.90	1.20	.84
Race of mother	0.32	0.47	1.37	.50
Membership in oversampled group	0.84	0.52	2.31	.11
Child's perceptions of parental praise	0.07	0.09	1.07	.46
Child's perceptions of parental negativity	1.36	0.48	3.91	.00
Child's perceptions of parental awareness of child's activities	-0.28	0.08	0.76	.00

Note. N = 223

Chapter 5

Implications and Conclusions

The present research on maternal age at the transition to parenthood as a predictor of children's well-being contributed a new perspective to the topic through the inclusion of children's perceptions of well-being in relation to the independent variable. In addition, the inclusion of available resources and parenting attributes in the study of predictors of children's well-being was helpful in creating a model depicting how these variables contribute to the variables of interest. Recommendations were identified for future research as well as application of the findings for policy and educational practice.

Discussion

This research was based on several theoretical concepts related to different components of the conceptual model. From the maternal life-course perspective came the concept of being off time in relation to one's cohort as a possible reason for concern about implications for children of mothers who make the transition to parenthood at nonnormative ages. The availability of resources, specifically financial capital, human capital, and social capital, was a possible explanation for well-being of children in relation to maternal age at the transition to parenthood. Parenting attributes were identified as potential markers of the parent-child relationship that could enhance or hinder the transmission of parental resources to their children. Figure 2 contains an illustration of the revised model that was supported by the results of this research.

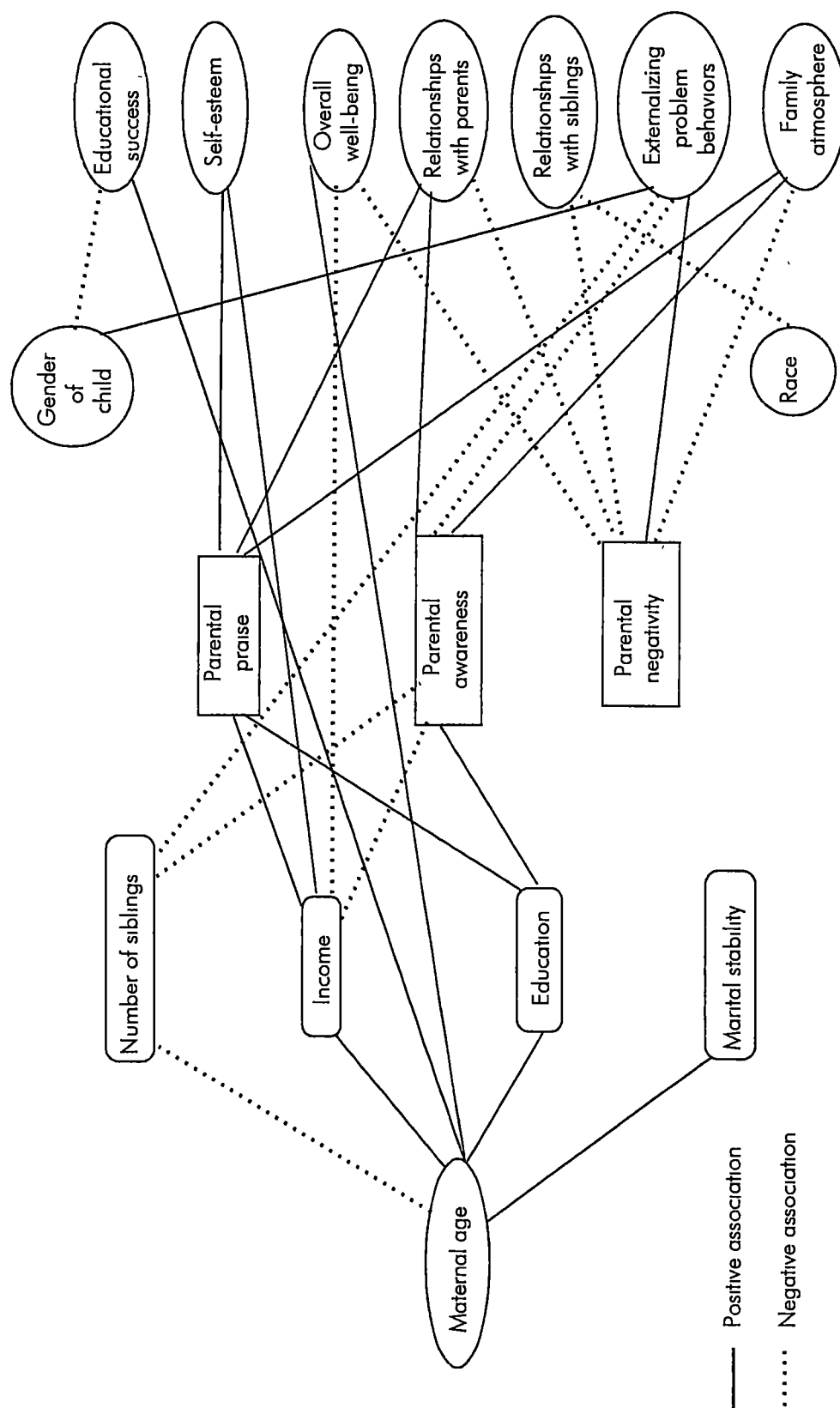


Figure 2. Revised model of relationship of maternal age at transition to parenthood to parenting attributes and children's perceptions of well-being

Note. Maternal age refers to mother's age at the transition to parenthood

Maternal age at the transition to parenthood was predictive of children's perceptions of well-being. The maternal life-course perspective would lead one to expect a curvilinear relationship for maternal age at the transition to parenthood and children's well-being because of the issue of being off time in relation to one's cohort for both teen mothers and older first-time mothers. However, in the present study, there was a positive association of maternal age at the transition to parenthood with children's educational performance and ratings of overall well-being. Because there were not enough participants who made the transition to parenthood at younger ages or at older ages than normal to make comparisons among groups, it is important to exercise extreme caution in interpreting these results or in generalizing them beyond the participants in this particular study.

Maternal age alone was not a strong predictor of children's well-being. Neither was having access to resources. In the present study, the most important predictor of children's perceptions of well-being was the parent-child relationship as indicated by the parenting attributes. The theoretical basis of the study of social capital and other forms of capital is that these characteristics—maternal age, availability of resources, and the parent-child relationship—function in combination to foster development of perceptions of well-being in children.

Maternal Age at Transition to Parenthood as a Predictor of Children's Well-Being

The present research adds to the results of previous researchers who found associations of maternal age at the transition to parenthood and certain aspects of child well-being, especially in the cognitive domain. Support also was found for associations of

maternal age at the transition to parenthood with children's perceptions of overall well-being as assessed by children's global ratings of how well their lives were going. However, caution must be exercised in generalizing the results beyond this sample because of the small number of participants who made the transition to parenthood at nonnormative ages. Only 7% of participants made the transition to parenthood at younger than 19 years of age or at older than 34 years of age. Therefore, the sample of nonnormative first-time parents was too small to develop a clear answer to the research questions. Even though a large national data set was used, the present research turned out to be more representative of children's perceptions of parents who made the transition to parenthood at normative age.

The attempts to eliminate potentially confounding factors from the research resulted in a fairly homogeneous sample in which potential associations of maternal age with children's well-being may have been minimized. The selection of children who were biological children of married parents helped to eliminate characteristics that were not the focus of this research that might influence children's well-being (e.g., being in a stepfamily, being adopted, or being raised in a single-parent home).

Children's educational performance. Previous researchers have found positive associations between maternal age at the transition to parenthood and children's IQ scores (Zybert et al., 1978), scores on achievement tests (Schneider & Coleman, 1993), scores on the Peabody Picture Vocabulary Test (Moore & Snyder, 1991; Nord, 1988), judgments of school performance by teachers (Nord), and school achievement (Furstenberg et al., 1989). In the present research, maternal age at the transition to parenthood was predictive

of children's educational performance using two other measures: children's reports of grades and their expectations for future education.

However, the results of the present study were not consistent with a finding by Schneider and Coleman (1993), who found no association between mother's age and student grade composites with the exception of a negative association when parent involvement variables were added to the model while controlling for achievement test scores. This seeming discrepancy could be related to several methodological differences: (a) Schneider and Coleman did not limit their study to first-born children, whereas the current research was limited to first-born children, (b) Schneider and Coleman used school reports of student grades, whereas grades were determined by student reports in the present study; (c) educational performance in the present study was a combined measure of grades and children's expectations for further education, whereas Schneider and Coleman used grades as the only dependent variable in their research; and (d) Coleman's and Schneider's sample was limited to eighth-grade students, whereas the current research included children from third grade to college.

It is possible that maternal age at the transition to parenthood has a greater influence on first-born children than it does on subsequent children, thus increasing the likelihood that a relationship between the independent variable and the dependent variable of children's educational performance would be found in the present study. Some researchers have identified several characteristics of firstborns, including high levels of achievement; high intellectual aptitude; and tendencies toward dominance, responsibility, and achievement orientation (Sharf, 1996). Researchers of Adlerian psychology have

described first-born children as achieving more than later-born children, especially in intellectual areas, and have explained that generalization through observations that mothers interact differently with their first-born children than they do with later-born children (Manaster & Corsini, 1982). Therefore, limiting the present research to first-born children may have improved the chances that relationships of child outcomes to maternal age at the transition to parenthood would be found.

Selection of first-born children for the present study means that only children may be over represented in the sample. Adlerian theorists have indicated that only children have a distinctly different experience than do children who have siblings (Dreikurs, 1958). Advantages of being an only child include access to undiluted parental resources, generally higher educational levels, less potential for conflict within the family, and close relationships with parents (Roberts, 1997). Therefore, the sample used in this research may have been more achievement oriented than children in other studies.

Children's socioemotional performance The finding that children's perceptions of overall well-being were associated with maternal age may be related to the greater stability of families in which the mother is an older first-time parent. Coleman (1990) indicated that stability is necessary for the creation of social capital. In previous research, children of older first-time parents have cited maturity (Yarrow, 1991), stability and patience (Morris, 1988), and strictness and availability (Brandon, 1999) of their parents as positive attributes. These characteristics of parents may create a more secure environment for children so that they tend to give positive ratings to how their lives are going overall. The assertion that mature, psychologically healthy adults are most able to

provide the care that children need (Belsky, 1984) may be explanatory of this finding. Maternal age was not predictive of other measures of socioemotional performance.

Caution should be used in interpreting these results because of the poor predictive power of the model in which maternal age at the transition to parenthood was predictive of children's reports of overall well-being. The wording of the item was "On a scale from 0 to 10 where 0 is really bad and 10 is absolutely perfect, how would you say your life is going?" (Sweet & Bumpass, 1996). The use of a single item to measure this construct limits the credibility of children's assessments of overall well-being. Single-item measures do not give researchers sufficient information to assess the validity and reliability of the measure (McIver & Carmines, as cited in Sabatelli & Waldron, 1995). Single-item constructs may be more subjective than multiple measures because each participant must construct the meaning of that item personally, and there is no reason to think that different individuals will interpret meaning in the same way (Sabatelli & Waldron)

Demographic Variables Associated with Maternal Age at Transition to Parenthood

Researchers have identified several demographic characteristics that are closely related to maternal age at the transition to parenthood. Often these characteristics have been cited as the means by which parental age is associated with child outcomes.

Mother's education and family income The two demographic characteristics most frequently associated with maternal age at the transition to parenthood have been the mother's level of education and family income (Alwin & Thornton, 1984, Barratt, 1991; Christ et al , 1990; Cooney et al , 1993; Geronimus et al., 1994; Orlebeke et al., 1998;

Philliber & Graham, 1981). Consistent with previous research, both of those characteristics were associated with maternal age at the transition to parenthood in the expected positive direction in the present study.

In much previous research, controlling for age and income has resulted in eliminating or reversing differences in child outcomes across maternal age groups (Christ et al., 1990; Cooksey, 1997; Kınard & Reinherz, 1987, Moore & Snyder, 1991; Speiker et al., 1997). This information is useful in identifying which characteristics have the strongest influence on child outcomes. However, to try to disentangle age from income and education is to eliminate some of the most important resources that older mothers bring to the role of parent and that younger mothers often lack. Though many older first-time mothers may have low incomes and low educational levels, as a group, women who delay childbearing are better educated (Bachu, 1997) and have higher incomes (U.S. Census Bureau, 1995) than younger parents. Teen parents have not had the opportunity for the same level of education that older parents have had and are not likely to have the same level of income as adults who have been employed in a career over a span of time

Other associated demographic characteristics Other demographic characteristics that have been linked to child outcomes through previous research and that were included in the present study are race of mother (Parcel & Menaghan, 1993; Parcel et al., 1996), number of child's siblings (Bianchi & Robinson, 1997; Kidwell, 1981, Parcel & Menaghan), marital status of the parents (Bianchi & Robinson, Parcel & Menaghan; Ventura & Hendershot, 1984), and gender of the child (Kidwell; Parcel & Menaghan,). Gender of child and race of mother were not associated with maternal age at the transition

to parenthood but were included in this research because of their relationship to child outcomes as established through previous research. The associations of maternal age with marital status of the parents at Wave 2 and with number of child's siblings were in the expected directions.

These demographic variables are important considerations in research on children's well-being because they represent human capital, financial capital, and social capital that are available to children within the family. Their association with maternal age has implications for children's well-being in relation to maternal age at the transition to parenthood.

Demographic Variables as Predictors of Children's Well-Being

Some of the demographic variables included in the present study were associated with measures of children's perceptions of well-being independent of their association with parenting attributes. Some of these associations provide a potential mechanism for explaining how maternal age at the transition to parenthood is related to children's perceptions of well-being.

Family income In the present research, the inverse relationship between family income and children's perceptions of overall well-being is not consistent with previous research. Higher income has been found to be related to more positive outcomes for children in previous studies (Alwin & Thornton, 1984, Cooksey, 1997, Orlebeke et al., 1998).

Employment status of the mother is a possible explanation for the inverse relationship between children's well-being and family income. Employment status of the

mother was not included in the current research, but in many families with higher levels of income, the mother is employed. This might lead to less time available to the mother to spend with her children, possibly resulting in a reduction in social capital. This could weaken the relationship between parents and children and reduce the transfer of the benefits of financial capital and human capital to them.

Schneider and Coleman (1993) found that children whose mothers were not employed outside the home or whose mothers were employed part time had higher grades than those whose mothers worked full time. Children whose mothers were employed part time had higher scores on achievement tests than those whose mothers worked full time or those whose mothers were not employed (Schneider & Coleman). Though educational performance is a different concept from overall well-being, these findings are possible indications of lower availability of social capital in those families where mothers work full time as compared to those who work only part time or not at all. The inverse relationship between family income and parental awareness of children's friends, activities, and spending habits provides further evidence that children may have perceived parents in the higher income brackets to have been less attuned to their lives than did children whose parents were in lower income brackets.

The inverse relationship of family income to children's perceptions of overall well-being seems inconsistent with the finding that family income was associated positively with children's perceptions of self-esteem. Because the regression model was not effective in predicting self-esteem, it is likely that other factors not considered in this

regression model are better predictors of self-esteem than are any of the items tested, including family income

Mother's level of education That mother's level of education was not predictive of children's reports of educational performance in the regression model was inconsistent with previous research findings. Many researchers have found an association between maternal educational level and children's educational outcomes (Barratt, 1991; Kinnard & Reinherz, 1987, Schneider & Coleman, 1993; Spieker et al., 1997). It is possible that mother's educational level operates indirectly through the expectations mothers have for children's education, the manner in which mothers interact with their children, and through the level of cognitive stimulation provided in the home environment. These items were not included in the present study.

Another possible explanation for the lack of association of mother's educational level to children's educational performance is that the present study was focused on children's reports of their grades and expectations for future education. Most researchers who have looked at maternal age as a predictor of child cognitive outcomes have used standardized measures of cognitive functioning such as the PPVT (Alwin & Thornton, 1984; Moore & Snyder, 1991) or other standardized tests (Barratt, 1991, Kinnard & Reinherz, 1987; Spieker et al., 1997) to evaluate students' performance. Others have been able to obtain reports of grades from the schools (Schneider & Coleman, 1993). These methods may be more objective and accurate measures of children's educational performance than grades reported by children, who may have a tendency to inflate their grades when reporting them, especially if the grades are low. Therefore, the results of the

present study may be questionable in relation to children's actual educational performance.

Number of siblings There was an inverse relationship between number of siblings and children's reports of externalizing problem behaviors, one of the indicators of children's well-being. This finding was inconsistent with some previous research (Downey, 1995). However, this association may have been related to the first-born status of participants in the present study. Researchers of Adlerian psychology have characterized first-born children as being more responsive to authorities and to social pressure than children of subsequent birth orders (Manaster & Corsini, 1982). Theoretically, the sample of first-born children who participated in the present study would be less likely to exhibit externalizing problem behaviors than would later-born children. In previous research, Parcel and Menaghan (1993) found that total number of children in a family was not predictive of problem behaviors in children. However, they did find that birth of a new sibling was predictive of increased problem behaviors in children within a 2-year period.

Gender of child Gender of the child was predictive of educational performance. Girls' reports of educational performance as assessed through their reports of grades made in school and their expectations for future education were higher than were boys' reports. This finding is consistent with previous research (Schneider & Coleman, 1993).

Boys reported more involvement in externalizing problem behaviors than did girls. One possible explanation for this finding is that in this sample parents were less likely to be aware of their sons' activities, friends, and spending habits than they were of

their daughters' activities, friends, and spending habits. Lack of parental awareness of boys' activities, friends, and spending habits may be an indication of less monitoring of their behaviors by parents. Researchers have found that parents of children involved in delinquent or antisocial activities supervise or monitor their activities less than do those whose children are not involved in such activities (Parke et al., 1998). Though this does not address the reason parents might monitor boys' activities less, a possible explanation is the seeming acceptance within society of some externalizing problem behaviors in boys—the “boys will be boys” explanation.

Another possible explanation for the difference in parental awareness for boys and girls is the difference in communicativeness between boys and girls that has been found in research (Dyk & Wilson, 1999). Girls tend to talk more to their parents than do boys (Dyk, & Wilson). This would increase the likelihood that parents would know more about their daughters' activities, friends, and spending habits than they would know about their sons' activities, friends, and spending habits.

Marital status of parents. It was expected that marital stability as measured by the status of the Wave 1 marriage at Wave 2 would be associated with parental awareness. However, marital stability was not related to any of the parenting attributes or to children's well-being. The most likely explanation of this finding is that the sample of mothers whose marriages were interrupted was too small for any possible differences to be revealed.

Choosing a sample of parents who were married to each other at the children's births potentially influenced the results in comparison to the concerns often voiced about

births to younger parents today. Much of the concern about outcomes for children born to teens centers around the large number of births to unmarried mothers (Ventura & Hendershot, 1984). The difficulty in completing education, limited job skills, and low income because of having only one wage earner have all been associated with this growing trend (Spieker et al , 1997). By eliminating single teen mothers from the sample, the children of teens in this sample had the advantage of being raised by two parents, which gives children the advantage of having two adults as potential sources of resources, including financial capital, human capital, and social capital. In addition, the youngest mothers in this sample were 17 years of age, and many teens giving birth in the late 1990s were considerably younger. The absence of very young mothers in this sample may have reduced the variability of outcomes for the children.

Race of mother Because of the low income and low educational levels usually associated with minority status, children of nonwhite mothers were expected to experience poorer educational performance and more externalizing problem behaviors than were children of white mothers. However, neither of those relationships were supported in the present research. With the inclusion of variables for income and educational level, race was not related to most measures of children's well-being.

The only measure of children's well-being related to race was relationships with siblings. Children whose mothers were nonwhite reported closer relationships to their siblings than did children whose mothers were white. Hogan, Hao, and Parish (1990) found that black mothers have better access to assistance from kin in the form of sharing housing and provision of free child care than do white mothers. This is an indicator of the

social capital available to these families through their strong family connections. These strong bonds to extended family may serve to facilitate sharing of various types of capital within these families. The transmission of social capital to the children may be exhibited in their close sibling relationships.

Demographic Variables Associated With Parenting Attributes

As shown in the proposed model for the present research, demographic characteristics were expected to be predictive of parenting attributes. Though there was an association between some of the demographic variables and the positive parenting attributes of parental praise and parental awareness of children's friends, activities, and spending habits, there was no association between demographic variables and parental negativity.

Parental praise. Family income was associated positively with parental praise as proposed. Mother's level of education completed was positively associated with parental use of praise as well. Belsky (1984), in research supporting development of a family process model for determinants of parental functioning, cited research by several social scientists providing support overall for the relationship of availability of resources and levels of stress to parents' functioning. Availability of resources and limited stressors were associated with positive parenting (Belsky, 1984). Parents with higher incomes and higher levels of education have greater access to resources and potentially fewer stressors (at least in regard to issues of day-to-day survival, than do parents with lower levels of income and education. It is likely that these resources help to improve the well-being of parents, which is transmitted to their children through more positive parenting styles.

Parental awareness. As discussed previously, family income was related inversely to parental awareness. Mother's level of education completed was associated positively with parental awareness of their children's friends, activities, and spending habits as was proposed in the model. Education may be associated with mothers' knowledge of the importance of involvement in what children are doing to foster development of close parent-child relationships. Also, these mothers may experience more control over their lives because of greater access to resources (Belsky, 1984).

The current research supported the proposed model that the number of children would be associated inversely with parental awareness of children's activities, friends, and spending habits. Downey (1995) found that maternal resources are diluted with each additional child. Having less available time and fewer financial resources for investment in each child can reduce communication between mothers and children, thus decreasing mothers' awareness of the activities, friends, and spending habits of their children.

Parenting Attributes as Predictors of Children's Well-Being

Parenting attributes in this study were better predictors of the measures of children's well-being than was maternal age at the transition to parenthood or any of its associated demographic variables. As mentioned previously, parental negativity was predictive of a greater number of measures of children's well-being than any other variable in the research. However, parental negativity was not related to maternal age or to any of the demographic variables.

Parental praise. The finding that parental praise was related directly to children's ratings of self-esteem, reports of relationships with parents, and ratings of family

atmosphere was expected in accordance with the proposed model. Praise for effort and for positive behavior has been shown to be more effective at reinforcing desired behaviors in children than has fault-finding or punishment for poor behaviors (Dreikurs, 1958). Parents who use sincere praise provide an encouraging environment that enhances parent-child relationships and builds children's self-concepts (Parke et al., 1998).

Parental praise was not related to children's educational success as expected. However, praise is just one method parents use to encourage their children, and other methods of encouragement may be more effective in enhancing educational performance. Adlerian psychologists have suggested that praise is effective only if it is genuine and not given indiscriminately (Dreikers, 1958). Because praise of parents was a two-item measure, and was measured quantitatively rather than qualitatively, it may not tap all of the important dimensions of the construct, thus resulting in questionable validity.

Parental awareness. The finding that parental awareness was associated negatively with children's externalizing problem behaviors was consistent with the proposed model. Children who perceive that their parents are aware of their activities, friends, and spending habits probably are less likely to be engaged in externalizing problem behaviors such as skipping school, smoking, taking drugs, engaging in sex, or drinking alcohol. Low levels of parental monitoring have been associated with delinquent and antisocial behaviors in children (Parke et al., 1998)

Parental awareness may serve as a marker for the parent-child relationship. Children who have close relationships with their parents are more likely to share information about what is going on in their lives than those whose relationships with

parents are poor (Parke et al., 1998) They may be less likely to engage in externalizing behavior problems because they want to please the parents with whom they share this close relationship. This explanation is supported by the direct association of the parental awareness attribute with children's ratings of relationships with parents and family atmosphere.

Parental negativity. The salience of parental negativity in relation to children's perceptions of well-being for this sample indicates that parental negativity can be particularly destructive to children's well-being in a number of areas, especially in the socioemotional domain. For example, Parke et al (1998) reported that parents who are hostile and authoritarian tend to have children who have difficulty socially with age-mates. Positive attributes such as parental praise and parental awareness of their children's activities, friends, and spending habits are predictive of children's perceptions of well-being, but parents who are negative are less likely to use positive parenting attributes as indicated by the negative association between parental negativity and parental praise, $r(230) = -.18, p = .003$, and parental negativity and parental awareness, $r(231) = -.27, p = .000$, in the zero-order correlation.

Importance of parenting attributes to children's well-being. The strength of the associations of the parenting attributes to children's perceptions of well-being illustrates the importance of what mothers do in their roles as parents. How parents go about the job of parenting may influence how their children relate to them. Parcel, Nickoll, and Dufur (1996) found that parent-child interactions were more predictive of the level of social capital in the family than the mere presence of two parents in the home. Use of praise and

interest in children's lives contributes to positive relationships among parents and children (Parke, 1998). High levels of negativity tear down those relationships. Gottman (1994) found that negativity was predictive of divorce in married couples and that couples who interacted with each other in a negative manner tended to have children who later exhibited antisocial behaviors, depression, and problems in school. It is possible that parents who interact with each other in a negative manner may also have negative interactions with their children.

Recommendations

Because the sample for the present research was not weighted, even though it contained oversampled groups, recommendations must be made with caution. Results in relation to maternal age were not definitive because of sample limitations and the weakness of some of the measures. However, some recommendations can be made for policy and education as well as for additional research.

Policy

The positive association of maternal age at the transition to parenthood with children's well-being found in the present research calls into question the age restrictions some agencies and governments place on adoptive parents, including maximum ages for parents to adopt infants and restrictions on age differentials between parents for adoption of infants (Hinman, 1997). Though these restrictions are deemed to be in the best interests of the child, findings from the present study do not support that explanation. The salience of the parenting attributes may serve as an indicator that potential adoptive or foster parents' parenting styles and practices may be more important to children's well-being

than age of parents. The availability of resources to the family is an important consideration as well.

Education

The predictive power of parenting attributes for this sample has implications for parent education programs for parents of all ages. The positive association of parental praise children's reports of self-esteem, relationships with parents, and family atmosphere may indicate that the assets-building model for youth development is a way to improve self-esteem and confidence in children and teens. If praise is related positively to self-esteem and family relationships, then teaching parents how to use praise and other methods of encouragement effectively may be one of the best ways to increase self-esteem and improve family relationships in vulnerable youth.

In order to help parents and children to have positive relationships, parent educators and family counselors can teach parents how to reduce negativity and increase praise and other positive reinforcement techniques. That parental negativity was associated with more areas of children's well-being than either of the positive attributes indicates that teaching parents how to react in a less negative manner to their children might have more far-reaching benefits for children than would increasing positive behaviors.

Research

It is important for researchers to select data sets for secondary data analysis that are appropriate for the questions of interest. Researchers normally use large national data sets with the goal of including a large number of participants and of being able to

generalize results to the population of interest. However, if the population of interest is a small segment of the general population, it is not likely to be better represented in a national data set than in a more specific sample unless the original researchers were interested in a similar population and oversampled that group. Because the NSFH was designed to focus on divorced and cohabiting families, it contained a smaller percentage of participants from teen and older first-time parents than is found in the general population. This was a limitation in using the NSFH data for studying persons who became first-time parents at nonnormative ages. Use of a statistical program that accounts for the sampling strategy and weighting of the data would give greater confidence in generalizing results from the NSFH data set to more general populations. SPSS, the statistical program used with the present study does not account for sampling design.

Because of the limitations of this research, additional areas of research are needed to clarify the relationship of parental age at the transition to parenthood to child outcomes. Might parental age at transition to parenthood be related to child outcomes in a curvilinear, rather than in a linear model? The small number of older mothers in this sample made testing of a curvilinear relationship impractical. A sample with a larger percentage of older first-time mothers would be beneficial in studying the possibilities of a curvilinear relationship of maternal age to children's well-being.

What are the experiences of children of older first-time parents and very young first-time parents? Even though children of teen parents have been the objects of much research, there has been very little research concerning these children's perceptions of

their parents and their lives in general. Children of older first-time parents have been overlooked for this type of research as well. Qualitative research could provide researchers with a deeper understanding of the meaning that parental age at the transition to parenthood has for children.

Does parental age at the transition to parenthood have differing implications over time for the children? It is possible that parental age may have more positive or negative implications for children based on their stages in life. Longitudinal research is needed to assess such differences across the life span.

Does having one parent of normative age lessen the impact of having a parent of a nonnormative age, either younger or older? Does having two parents of nonnormative ages intensify any associations of parental age with child outcomes? Devising a methodology for assessing the associations of both parents' ages with outcomes for their children would help to clarify the relationship of parental age to children's well-being

Conclusion

Possibly the most important result of this research is that in this study parenting attributes were better predictors of children's well-being than was maternal age at the transition to parenthood or any of the demographic characteristics associated with it. It probably is not how young or how old parents are but how parents go about the job of parenting that makes a difference in children's lives. One teen in a qualitative study of children of older first-time parents phrased her thoughts about her parents in this way:

I realize that they're older than most parents, but, I mean, they're just my parents. I don't look at them any different. I can't imagine them being any different if they were like in their 30s or 40s instead of their 50s (Brandon, 1999)

Because parenting attributes may be more strongly associated with child outcomes than parental age, all parents need to become aware of the importance of parenting practices and their implications for children. Educators, physicians, clergy, and counselors working with parents can help them to improve their parenting skills. Parents can be taught ways to encourage their children; they can be taught to increase their awareness of their children's activities, friends, and habits; and they can be taught how to decrease negativity in their interactions with their children and with each other. These skills may make a great difference for families in their relationships with each other and with children's perceptions of overall well-being.

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