An Assessment of Parents' Beliefs About Child Development among Families Participating in the Comprehensive Health Investment Project

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(ABSTRACT)

Extensive research suggests linkages among low income, erratic or ineffective parenting behaviors, and impaired health and development among children. Family support programs, offering a range of comprehensive services to low income families, have demonstrated positive health and life performance outcomes, both for children and parents. One such program, the Comprehensive Health Investment Project (CHIP) in Roanoke, Virginia, works to provide primary physician care to low income young children. One of CHIP's objectives is to enhance parenting skills so that parents can help maintain good health among their children.

This study attempted to assess parents' beliefs about child development among a sample of CHIP parents and a sample of parents from a similar SES group (drawn from CHIP's waiting list) using a Likert-style opinionnaire. Results from both between-group tests and within-group (CHIP sample) tests indicate homogenous and favorable reported beliefs about child development. Very little association was found between demographic variables and responses.

Suggestions regarding the practical use of these findings and recommendations for future research are made.

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Most of all, thanks to my son, Joseph, who tolerated a sometimes grouchy father while I studied parents' beliefs about the health and development of their children.

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CHAPTER 1

Background and Introduction

Poverty in the United States and Its Impact on Children's Health and Development

In 1987, it was estimated that 32.5 million Americans lived below the poverty line (Chilman, 1991); of this number, children (those ages 17 and under) make up the single largest group, approximately 13 million, or 40 percent of all the poor (Weissbourd and Emig, 1989). "The official poverty line, as set by the Social Security Administration in 1964 . . . was based on the estimated annual costs to a family of a minimally adequate diet, multiplied by 3 to include other minimal living costs" (Chilman, 1991, pg. 191). In 1989, the poverty threshold for a family of four was $12,675 (Bureau of the Census, 1989). Approximately 20 percent of all American children are considered to be poor (Children's Defense Fund, 1988); among non-white children, the proportion is much higher, with close to 50 percent living poor (Zigler and Black, 1989).

Two-thirds of all poor children in 1987 lived in a household with a working parent (Chilman, 1991), a rate which helps illustrate that employment can fail to create economic security for a family. Single mothers and their children are particularly vulnerable to low income: in 1987, an estimated 55-60 percent of female-headed families lived below the poverty line (U.S. Government Printing Office, 1989; Zigler and Black, 1989). The

number of children being raised by single mothers increased 21 percent from 1980-1988, rising from 11.4 to 13.5 million (U.S. Children and Their Families: Current Conditions and Recent Trends, 1989).

The impact of poverty on American children's health often begins before the child is even born. Americans lack universal health care coverage, resulting in unequal access to care. For example, 26 percent of women in their child-bearing years (15-44) have no health insurance coverage for maternity care; 17 percent of women in this age group have no insurance at all (The Changing Face of Health Care: The Movement Toward Universal Access, 1990). Research indicates that "about one-third of pregnant women obtain too few prenatal visits or start prenatal care too late" (Hansell, 1991). Unfortunately, even when low income pregnant women do have access to care, the quality of prenatal care may vary based on sociodemographic factors. Hansell (1991) found that low income women receive fewer tests for blood pressure, hemoglobin, and hematocrit during prenatal visits to their doctors than do women of middle and high income.

The lack of comprehensive prenatal care affects babies' health. For example, 25 to 50 percent more babies are born at low birthweight to mothers lacking full prenatal care than to those who received such care (Garbarino, 1989). Low birthweight increases the risk of long-term disabilities such as mental retardation, blindness, cerebral palsy, and learning impairments (Rosenbaum, 1989). In addition, the odds of dying in infancy are twenty times

greater for low birthweight babies than for normal weight babies (Eberstadt, 1988). The U.S. infant mortality rate is 9.9 per 1,000 live births, which ranks 19th in the world, below such countries as Singapore, Ireland, and Spain (Children's Defense Fund, 1988). The toll for a lack of comprehensive prenatal care is grave not only in human terms but in financial terms as well. Rosenbaum (1989) notes: "it has been estimated that between 1978 and 1990, the nation will experience an 'excess' of more than 330,000 low birthweight births, at a cost of $2.5 billion, a cost which might have been averted had their mothers received adequate maternity care" (pg. 99).

The authors of The Changing Face of Health Care: The Movement Toward Universal Access (1990) describe the issue of our fragmented health care system and its impact on American children living in poverty. They note that in 1987, more than 12 million children were uninsured. Low income children without health insurance receive 40-50 percent less physician and hospital care than insured children, and are 33 percent more likely to be in fair or poor health than insured children. Of these 12 million uninsured children, approximately seven million do not receive routine medical care. When these children are sick, their parents tend to seek out care for them in public clinics or hospital emergency rooms. Such care is often inefficient and unsustained. The lack of a primary caregiver creates the potential for health problems to go undetected. Health professionals who work with low income students estimate that up to 80 percent of them have at least one

untreated health problem, including mental problems, developmental disabilities, anemia, and vision, hearing, and dental problems (Weissbourd and Emig, 1989).

Children growing up in low income families suffer from chronic health problems disproportionately. As the figures in Table 1.1 show, children from families in the lowest income group (annual income of <$10,000) are two and a half times more likely to suffer

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Table 1.1: Children with a Chronic Health Condition Causing Limitation of Major Activity (Defined as Play in Children <6 and School Attendance in Children 6-17.)

Family Income <$10,000 in 1987:	5.9%
Family Income $10,000--$19,999:	4.3%
Family Income $20,000--$34,000:	3.4%
Family Income >$34,000:	2.3%

(Source: U.S. Children and Their Families: Current Conditions and Recent Trends, 1989, U.S. Government Printing Office, Washington, 1989.)

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from a chronic health condition than children from families in the highest income group (annual income of >$34,000).

Increased risk of mental retardation and poor cognitive development are also associated with poverty for a variety of reasons. Babies born prematurely or at very low birthweights (and, as already noted, lack of comprehensive prenatal care raises the chances of these) are up to ten times more likely to be mentally retarded than normal weight babies (Comptroller General, 1979).

Even when a baby is born at normal weight, however, a wide range of adverse environmental conditions associated with low income can negatively influence her cognitive development. Garbarino (1989) lists some of these factors: "malnutrition, health care deficiencies, violence, lack of stimulation, lack of responsiveness to the child's exploratory and early verbal behavior" (pp. 32-33). Researchers also describe how cultural factors often associated with poverty can reduce the chances of school success. Garbarino (1989) notes: "school success is impeded by deficiencies in cognitive development in part, (due to the facts) that many poor children have not been immersed in the 'academic culture' because they don't see people reading, do not have models of success in school, are not familiar with the kinds of things that happen in school . . . in a sense, they are 'out of sync' with school" (pg. 33). Comer (1989) describes similar difficulties for low income black children. "Kids from social networks that are marginal to society's mainstream have different preschool experiences (from others) . . . Many (of their) parents are alienated from social norms - they may not be able to read or write well themselves, may not be employed, do not vote, and cannot teach their children the social-interactive, problem solving and other skills needed in school" (pg. 115). Poor social skills contribute to school failure, which, in turn, perpetuates the cycle of poverty (Garbarino, 1989).

The Influence of Parents on Children's Health and Development

Experts in child development have described the significance of the contribution parents make to the health and development of their young children. Young children are dependent upon adults to provide for their physical needs, such as adequate food, clothing, and shelter, and, of course, poverty negatively affects the quality of each of these that the parents are able to provide. Parents also create the young child's primary environment (Greenspan, 1989), and the quality of this family environment is seen as a critical factor in determining the quality of a child's development (the Comptroller General, 1979). Greenspan (1989) describes the first four years of children's lives as the period when they experience their "most fundamental lessons - learning to focus, to be intimate, to control their behavior, to be imaginative, to separate reality from fantasy, and to have positive self-esteem" (pg. 134). Clearly, then, parental behavior during these early years strongly influences a child's emotional health and cognitive development.

The Impact of Poverty on Parents' Health and Parenting Behavior

Unfortunately, poverty places extra stresses on parents, which may weaken their own health and their ability to function effectively as parents. The viewpoint here is neither simpleminded nor unilateral: that poverty necessarily makes one a bad parent or that it creates a single sort of parent. Rather, the idea is that "poverty and economic loss diminish the capacity for supportive, consistent, and involved parenting" (McLoyd, 1990, pg. 312). A

large body of literature exists which examines the impacts of low income on parents' health, parenting behavior, and the linkages between parenting behavior and children's health and development. The results of some of that research will be summarized here.

Studies have shown that correlations exist between poverty and increased rates of impaired physical health in adults. For example, a study of employed single mothers in Michigan and Georgia living below the poverty line revealed they had higher rates of ten chronic illnesses than the general population of women (Saari, 1988). These illnesses included hypertension, arthritis, diabetes, asthma/hayfever/allergies, epilepsy, gynecological problems, kidney problems, and liver problems. In a study of the Stress and Families Project, Greywolf, Ashley, and Reese (1982) found that over one-third of the low income mothers described their own health over the previous two years as "fair to very poor," and over one-fourth had been hospitalized during that period, although the average woman in the study was only 30 years old. Nearly 20 percent of these mothers indicated they had had to remain in bed all day for 25 or more days during the previous two years due to illness. This study also notes the linkage between the mother's and child's health. Children were found to be at higher risk of accidents and illnesses when their mothers were ill or experiencing stressful episodes.

Research also indicates a correlation between low income and diminished mental and emotional health of parents. For example, mothers, particularly single mothers, living in poverty are at high

risk of depression. Using the Center for Epidemiologic Studies Depression Scale, Belle and Dill (1982) found the scores of low income mothers to be high, the equivalent of scores reported by individuals who had recently experienced the death of a spouse. In discussing the results of several studies of poverty and its impact on the mental health of parents, Belle (1982) writes: "The context of their (low income mothers') lives often consists of unpredictable income, unrelieved child care responsibilities, poor housing, inadequate employment opportunities, dependence on social agencies for the necessities of life, and the experience of violent crime. . . . Seen in the context of human lives, depression seems an almost unavoidable response to (such) an environment" (pg. 236, pg. 241). The increased likelihood of depression may be linked with the additional stresses related to poverty. For example, Roghmann, Hecht, and Haggerty (1975) found that the incidence of major stressors is two to four times greater for poor or lower class families than for middle class families.

One might assume that, given the additional stresses of living in poverty and the increased risk of poor mental and physical health, adults' ability to be nurturing, sensitive, and involved parents would be diminished. Research bears out this assumption. For example, Mills and Rubin (1990) found that parents with low occupational status were more likely to use high power assertion methods (punishment, strong commands, and threats) of disciplining their children when they were unruly than parents with higher occupational status. A comparative study of low income rural white

and black mothers (Peterson and Peters, 1985) suggests that harsh disciplining behavior is more strongly related to socioeconomic status than to race. In a study of low income single mothers and their children, McLoyd and Wilson (1990) found higher levels of psychological distress among women experiencing greater economic distress than those with less severe economic problems. Mothers who were highly distressed were significantly less nurturant of their children than their counterparts with fewer psychological problems. As one single mother in another study put it simply, ". . . the lack of money is a real problem for all of us. My anxiety over not being able to find a job makes it hard to be attentive and concerned with the everyday demands of my children" (Richards, 1989, pg. 398). Zelkowitz (1982), working with a population of low income mothers, found that depressed mothers tended to yell and use physical punishment in disciplining their children, while less depressed mothers relied upon less punitve methods, such as reasoning and loss of privilege. Depressed mothers also expected their children to comply more immediately to their (the mothers') demands or requests, compared to their less depressed counterparts. These results substantiate the findings of Orvaschel, Weissman, and Kidd (1980) and Seagull (1987) who reported that depressed mothers are more disruptive, hostile, and rejecting towards their children than non-depressed mothers. Finally, poverty has also been found to be strongly associated with a disproportionate rate of child abuse and accidents. In a controlled comparative study of 402 families with young children,

Daniel, Hampton, and Newberger (1983) found that 86 percent of the child abuse families and 64 percent of the child accident families were in the lowest social class. They suggest that socioeconomic factors play a major role in producing severe stress in these families.

The Linkages between Parenting Behavior and Children's Health and Development

Parenting behavior which is punitive, coercive, or erratic (and, as noted, the risk of such parenting styles increases due to anxiety and stress related to poverty) has been linked to developmental problems in children. Greenspan (1989) describes the concept of multi-risk-factor families, in which parents are often psychologically impaired, deficient in coping skills, and under economic stress. The results of an observational study of children growing up in such families show one-year olds to be "withdrawn and compliant or highly aggressive, impulsive, and disorganized" (pg. 138). Two and three-year olds showed patterns of behavior consistent with "severe asocial or anti-social, impulse-ridden character disorders" (pg. 139). McLoyd and Wilson (1990) studied maternal behavior and economic conditions as predictors of distress in children and found a positive correlation between psychological distress in the mother and psychological problems in the child.

Lempers, Clark-Lempers, and Simons (1989) concluded that increased levels of loneliness-depression in children resulted from economic hardship-induced changes in parental nurturance and inconsistent parental discipline. Portes, Dunham, and Williams

(1986) suggest that the emotional and intellectual development of children may be diminished due to parental behavior which is punitive or authoritarian, behavior which can reduce the number and quality of the child's social interactions.

Thus far, this review of the literature suggests that poverty negatively impacts on the health, development, and well-being of family members. As noted earlier, the viewpoint expressed here in not one of cause-and-effect (e.g., low income results in poor parenting behavior). However, research indicates strong linkages among poverty, impaired physical and mental health of parents, and the higher risk of abuse, accidents, and/or emotional problems for children. McLoyd (1990), in summarizing an extensive review of research done on the effects of low income on black families, clearly describes these linkages:

> In sum, there is direct evidence that anxiety, depression, and irritability--states heightened by economic hardship--increase the tendency of parents to be punitive, erratic, unilateral, and generally nonsupportive of their children. In line with differences that have been found in the child-directed behaviors of impoverished versus more affluent parents, psychological strain encourages the parent to adopt disciplinary strategies that require less effort, (e.g., physical punishment, commanding without explanation, reliance on authority) rather than more (e.g., reasoning, explaining, negotiating). Depression, in particular, diverts the parent's attention from the child and fosters a tendency to attend disproportionately to child behaviors seen as negative by the parent. These parenting behaviors, especially in the extreme, have been found in longitudinal studies to be critical antecedents of socioemotional problems in children. (pp. 330-331).

Family Support Programs

In recent years, a number of family support programs have attempted to improve the health and quality of life of low income families. Although such programs may vary considerably in the type, range, and duration of services offered, studies of several programs indicate characteristics which seem to help promote positive results. These characteristics include beginning the program participation early in the child's life (Weiss, 1987; Weissbourd and Emig, 1989); offering a broad spectrum of coordinated services (Schorr, 1989; Seitz, Rosenbaum, and Apfel, 1985); and working closely with parents by helping them strengthen their caregiving abilities, solve life problems, and learn about their children's development (the Comptroller General, 1979; Seitz, et al., 1985). A brief summary of several studies of comparatively successful family support programs follows here.

Schorr (1989) describes a family intervention program involving nurse home visits to low income women in Elmira, New York. Nurses worked closely with over 400 women, both before and after the birth of their babies, and taught them about prenatal care, their coming labor, and the needs of their developing infants. In addition, the nurses helped strengthen the mothers' sources of support with family members, friends, and community services. A four-year study evaluated the program by comparing treatment families with similar control families for a variety of outcomes. Results showed significant differences: treatment families had one-fifth the cases of verified child abuse and

neglect of those in the control group; treatment mothers punished and restricted their infants less frequently than control mothers; treatment babies had fewer visits to hospital emergency rooms than control babies; and unmarried treatment mothers returned to school more rapidly and were employed more frequently than unmarried control mothers.

The Comptroller General (1979) describes an assessment of four Child and Family Resource Programs (CFRPs), which offered support services to low income families with children aged eight and under. Researchers selected a random sample of CFRP families and assessed the quality of their home environments at three points in time (at enrollment, one year after enrollment, and two to four years after enrollment). Twenty-one factors were included in the quality scale, and included such items as time spent with children, health care provision, quality of nutrition, home safety, and physical quality of the child's environment. Results indicated a 47 percent aggregate improvement on the quality scale from the time of enrollment to two to four years later. Interviews with CFRP parents revealed the majority felt the program had improved both their children's lives (helping to make them more assertive and independent, becoming better prepared for school, and having better social interaction with other children) and their own lives (for example, learning more about nutrition and improving their parenting techniques).

Longitudinal studies of participants of family-oriented early-childhood programs have also suggested that long-term benefits can

be achieved. Weiss (1987) reviews the results of two such studies: the Perry Preschool Project and the Institute for Developmental Studies Program, both of which involved low income young children. The studies followed treatment and control groups into their late teens. Treatment groups in both studies had significantly better outcomes in a variety of categories related to life performance and independence: retention in grade, assignment to special education classes, unemployment, school dropout, teen pregnancy, and juvenile delinquency.

One of the better known support programs for low income families is the Yale Child Welfare Research Project, implemented in the late 1960s and early 1970s. Briefly, the program provided a home visitor, pediatric care, day care, and developmental examinations to the participating family, starting while the low income mother was pregnant with her first child and lasting 30 months postpartum. A ten-year follow-up study of participant and control families suggests long range benefits of the treatment. Almost all the intervention families were self-supporting while only half of the control families were; intervention mothers waited a median of nine years before having a second child and had higher educational attainment than control mothers; intervention children had better school attendance than control children; and intervention boys required significantly fewer special school services than the controls (Seitz, et al., 1985). One area in which no significant differences were found between participant and control children was in IQ scores. The review of studies by Weiss

(1987) substantiates this result, though she cites studies which show treatment children reporting significantly higher IQ scores than control children in the short term (within three years of program participation).

In summary, some family support programs which work with low income families have demonstrated positive outcomes, both for children and for parents. For participant children, the outcomes include lower rates of teen pregnancy, school dropout, and unemployment; less need for special school services; better school attendance; and less grade retention than the controls. The significant benefits for participant children, in the long term, seem to be in categories of life performance and adjustment rather than cognitive development (at least as measured by IQ tests).

The Comprehensive Health Investment Project

The Comprehensive Health Investment Project (CHIP) is similar to the family support programs described above in a number of ways. Begun in Roanoke, Virginia, in 1988, it provides health care and family support case management to low income (within 150 percent of the poverty level) families with children aged eight and under who live in the Roanoke Standard Metropolitan Statistical Area (which includes the cities of Roanoke and Salem, and Roanoke, Craig, and Botetourt counties). Children receive regular preventive care and treatment from private physicians and dentists. The CHIP staff of public health nurses and family intervention specialists help coordinate the children's health care by working

closely with the parents. Additionally, CHIP staff provide health, nutrition, and parenting education and refer parents to other social service agencies as needed (e.g., job training or education).

One of CHIP's three goals is to "improve the health status of low income children by promoting parental involvement as an integral part of health care and child development and to assist families' move toward self-sufficiency and empowerment" (CHIP Mission, Goals, and Objectives, pg. 3). A stated objective to help reach that goal is to enhance parenting skills. When enrolling into CHIP, parents complete several surveys related to childrearing (a parenting satisfaction survey, a parental involvement inventory, and a parental skills inventory). Mitchell (1992) reviewed these completed parenting surveys and found the vast majority of respondents comfortable in their roles as parents and confident in their parenting skills. For example, 93 percent reported themselves as above average in parenting satisfaction; 88 percent felt they were highly involved with their children; and 91 percent reported themselves as very comfortable about their parenting skills. Such findings suggest these parents feel they know what the needs of their children are and that they (the parents) are able to effectively meet those needs.

Parental Beliefs about Child Development

Less is known, however, about the CHIP's parents' beliefs about their children's development. According to Miller (1988),

the areas of the nature of parents' beliefs about their children's cognition and development and how these beliefs relate to parents' behavior toward their children have become the focus of research only in recent years. The significance of these beliefs and the results of some of this research will be highlighted here.

Studies suggest it is important that parents have a clear sense of their children's abilities. For example, Stevens (1984) found the more knowledgeable mothers were about their young children's abilities, the more positive were the maternal behaviors the mothers displayed. Hunt and Paraskevopoulos (1980) examined the correlation between preschool children's performance in a battery of IQ items and their mothers' simultaneous predictions of their children's performances. The results showed a strong negative correlation (-0.80) between incorrect maternal predictions and child performance. In other words, the more inaccurate the mother's predictions, the lower the child scored. The researchers concluded that maternal overestimation of abilities could be very detrimental to the child.

Studies which examine correlations between socioeconomic status (SES) and parental beliefs have shown mixed results. On one hand, research has suggested that parents of high or middle SES have more favorable parental beliefs than parents of lower SES. For instance, Ninio (1979) found higher SES mothers began activities related to their children's cognitive development (e.g., buying a first book, talking to the baby) earlier than did lower SES mothers. Also, middle SES mothers reported more sensitive

beliefs (those which show the primary concern is for the child; which take into consideration the desires or needs of the child; and which consider the child as an active agent in his own learning and development) than lower SES mothers (Skinner, 1985). Johnson and Martin (1985) found higher SES parents are more likely to endorse open distancing (which allows children greater independence) in teaching situations and endorse less restriction and obedience of children in social situations than lower SES parents. In an extensive review of studies, Miller (1988) notes "(t)he beliefs characteristic of higher SES samples are . . . the kinds of beliefs that research indicates do in fact relate both to positive behaviors in the parent and to positive outcomes in the child" (pg. 273). On the other hand, he also stresses that the average social class difference in beliefs is never very large and that SES differences have not always been found in research focusing on parental beliefs about ability.

Purpose of Study

The present study attempts to assess a sample of low income parents' (including CHIP parents and parents on CHIP's waiting list) beliefs about children's development. Such a study may be justified in several ways. By allowing for the comparison of responses of the CHIP sample (who have received parenting intervention) and of the waiting list sample (who have not received parenting intervention), the study serves in part as a form of evaluation of CHIP's parental component. Results may serve a

practical purpose, perhaps suggesting alterations in the content or implementation of the program's parental component. For example, the findings may indicate a majority of sampled parents are unsure of how to discipline their young children effectively. The CHIP staff may then wish to emphasize such information during home visits. Finally, the results could add, however slightly, to the body of knowledge about low income parents and how they view the developmental needs and processes of their children.

Summary

There can be little doubt that poverty has a negative impact on the health and development of children. Some of the reasons for this are direct and fairly obvious: unequal access to health care (The Changing Face of Health Care: The Movement Toward Universal Access, 1990); increased risk of malnutrition (Garbarino, 1989); a reduced quantity and quality of prenatal care (Hansell, 1991); adverse environmental conditions (Garbarino, 1989). In addition, there are indirect, though equally harmful, ways poverty impacts on children. Studies suggest strong linkages among poverty, impaired parental health, punitive parenting behavior, and developmental problems in children (McLoyd, 1990). Some family support programs which offer comprehensive assistance to low income families have demonstrated comparative successes. An important component of these programs seems to involve working closely with parents by helping them learn about their children's development (the Comptroller General, 1979; Seitz, et al., 1985). One family

support program with a strong parental component is the Comprehensive Health Investment Project (CHIP) in Roanoke, Virginia. A study of low income parents' beliefs about their children's development could provide relevant descriptive information to CHIP's outreach workers and add to the body of knowledge in this field.

CHAPTER 2

Methods

Subjects

The parents of CHIP clients and the parents of children who were on the CHIP waiting list were the study subjects. In the spring of 1992, approximately 5,000 children in the CHIP of Roanoke catchment area were eligible for the program, based on family income level and child age. However, due to available funding, only an estimated 1,000 children were actually enrolled in CHIP of Roanoke at that time. Waiting list families met the eligibility requirements and were waiting for openings to become available. Agreement to participate in survey studies is granted by families who enroll in CHIP and families on the waiting list. The original sample sizes were set to provide adequate power for the statistical analyses. Thus, from the CHIP population (N = 405 families), 81 families were selected, and from the waiting list population (N = 362 families), 71 families were selected. In both cases, systematic selection from the family lists was used to create quasi-random selection. (Note: The CHIP sample was reduced from 81 to 68 because 13 of the selected families were discovered to have withdrawn from CHIP after the surveys were returned.)

Demographic characteristics were not available from the waiting list (control) group. However, due to CHIP's eligibility requirements, it was assumed that these families lived within 150 percent of the poverty level and each family had one or more

children aged eight or under. (These characteristics were assumed to be true of the CHIP sample also.)

Several demographic characteristics were available from the CHIP (treatment) sample and population. (See Table 2.1.) The majority of the CHIP families are headed by a female rather than a male; by one parent rather than two; by an adult aged 30 or under; by an adult who has not gone beyond a high school education; and by an adult who is employed. Also, the majority of families (78 percent) have been enrolled in CHIP less than two years. The CHIP sample selected here could be described as representative of the larger CHIP population in the categories of gender, age, education level, and employment status of family head and in number of adults in the household. The one aspect in which the selected sample seemed significantly different from the overall population was the length of time enrolled in CHIP. Mitchell (1992) found only 22 percent of all CHIP families had been enrolled for more than two years; however, at least 50 percent of the selected sample had been enrolled for more than two years. Therefore, the selected sample could be assumed to have received more parental intervention than a randomly selected sample of the CHIP population might be expected to have.

Instrument

The instrument used in this study was a Likert-type opinionnaire. An opinionnaire is a research instrument used to measure people's stated beliefs (their opinions). From these

Table 2.1.: Characteristics of the CHIP Population* and the Study Sample from the CHIP Population (Treatment Group)

Characteristics	CHIP Population	Study Sample
Race		(n = 68)
White	--	54%
Black	--	26%
Information missing	--	19%**
Gender of Household Head	(N = 337)***	(n = 68)
Male	43%	45%
Female	57%	48%
Information missing	0%	6%
Number of Adults in Household	(N = 339)	(n = 68)
1	52%	41%
2	48%	53%
Information missing	0%	6%
Age of Household Head	(N = 320)	(n = 68)
< 23 years	20%	7%
23 - 30 years	43%	51%
> 30 years	36%	30%
Information missing	0%	10%
Education Level of Household Head	(N = 299)	(n = 68)
< High school	39%	37%
High school or G.E.D.	49%	35%
Some college	10%	13%
College grad	2%	0%
Information missing	0%	15%
Employment Status of Household Head	(N = 289)	(n = 68)
Employed	66%	47%
Unemployed	34%	40%
Information missing	0%	13%
Length of Time Enrolled in CHIP	(N = 338)	(n = 68)
< Two years	78%	44%
Two years or more	22%	50%
Information missing	0%	6%

*Source: Mitchell (1992).
**Percentages may not total 100 due to rounding.
***The numbers are varied in the CHIP population due to omissions on the intake forms.

stated beliefs, one may estimate or infer the respondents' actual beliefs (their attitudes) (Best & Kahn, 1989). This opinionnaire, entitled "Parents and Child Development," consisted of 33 statements related to the cognitive, emotional, behavioral, and social development of young children. (See Appendix 1.) Possible responses for each statement were: "strongly agree," "agree," "disagree," "strongly disagree," and "don't know." The instrument was designed by Dr. Victoria Fu, a professor of Child Development at Virginia Tech, and by Dr. Kathleen Wampler, a retired professor of Child Development from Virginia Tech.

The instrument was reviewed in October, 1991, by the public health nurses and family intervention specialists who work with the CHIP families and was found to be acceptable. The instrument was then tested with a random sample (n = 80) of the CHIP population in December, 1991. Twenty-four completed forms were returned (a rate of 30 percent). These completed forms were analyzed for overall reliability in February, 1992. The analysis resulted in a coefficient alpha rating of 0.9341, which was considered reliable.

There were several limitations in the use of this instrument. First, as with all mailed surveys, there was no assurance that statements were understood or that the addressee was the one who actually responded. Also, surveys are only answered by respondents who are both accessible and cooperative (Isaac & Micheal, 1981). Additionally, with this opinionnaire's subject matter of young children and the source as the service agency which promotes the

health of the respondents' own young children, the possibility of getting socially acceptable responses rather than actual beliefs was perhaps greater than usual. Best & Kahn (1989) describe the limitations of the Likert-type scale: one cannot assume that the five positions on the scale are equally spaced (e.g., the interval between "strongly agree" and "agree" may not be the same as between "agree" and "disagree"). Also, the extent to which a person can give a valid reaction to a brief statement on a printed form without real-life, qualifying examples is questionable.

With these various cautions in mind, the results of the tests of the responses are considered non-generalizable. Conclusions will be tentative and descriptive in nature and will apply only to the respondents themselves and not to those in the samples who failed to respond or to other families enrolled in CHIP or on CHIP's waiting list.

Procedure

In March, 1992, after selection of the treatment group and control group subjects (described above), the researcher mailed each a cover letter (see Appendix 2), an opinionnaire, and a stamped return envelope. Each family receiving an opinionnaire was assigned a number (1 - 81 for the treatment group; 101 - 171 for the control group). This number was then written in the upper right corner of the return envelope as a means of tracking the respondents.

Two weeks after the initial mailing, the researcher sent a

reminder post card to those families who had not yet returned their opinionnaires (see Appendix 3). One week later, the researcher attempted to contact by phone all non-respondents who had currently working telephones. In these conversations, the researcher would first identify himself and ask whether the family had received the survey. If they had, he stated that we would very much appreciate them taking the time to complete it and return it in the supplied envelope. If they had not received it, the researcher verified their current mailing address, said he would send them another one, and asked them to complete it and return it. One week later, the researcher sent a final reminder post card to each non-responding family.

The researcher coded the available demographic characteristics of the treatment families and entered this information on opscan forms. As noted earlier, demographic characteristics were not available for the control group. Upon receipt of the completed opinionnaires, the researcher noted the assigned number on the return envelope and entered the responses on the appropriate opscan form.

The responses to the opinionnaire's statements were coded in the following way: "Strongly Agree" = 1; "Agree" = 2; "Disagree" = 3; "Strongly Disagree" = 4; "Don't Know" = 0. Each statement was determined to have a favorable and an unfavorable response. The vast majority of the statements (30 of the total 33) seemed to call for agreement rather than disagreement. Only three statements seemed to call for disagreement. These were: #28 ("It does not

make much sense to talk to babies before they understand the meaning of words"); #29 ("Attending to a baby whenever he/she cries during the first few weeks of life results in a spoiled child"); and #31 ("Leaving a baby in a crib or playpen all day is not harmful"). In order to simplify the examination of each person's overall attitude range, the scores for the statements calling for disagreement were reversed. (In other words, "Strongly Disagree" was then scored as 1; "Disagree" as 2; "Agree" as 3; "Strongly Agree" as 4. "Don't Know" remained as 0.) In this way, a low overall total would indicate a more favorable set of responses and a high overall total would suggest a more unfavorable attitude. (The specific attitude ranges will be described in Chapter 3.)

In April, 1992, the completed opinionnaires were analyzed, using the Statistical Analysis System (SAS) package. Analysis included simple frequencies (both number and percentage) of responses from both the treatment and control groups. In addition, t-tests were run for comparisons between the two groups, describing the significance of the difference in group responses to each statement and the group responses overall. Finally, within the treatment group alone, tests were run to determine the amount of correlation between the various demographic characteristics and the group responses to each statement and then the group responses overall.

Chapter 3

Results

Response Rates

Treatment Group:

The researcher sent surveys to 68 CHIP families (the treatment group). Thirty-four completed forms were returned, for a response rate of 50 percent.

Control Group:

Surveys were mailed to 71 families on the CHIP waiting list Twenty-one completed forms were returned, for a group response rate of 29.5 percent.

Overall:

Thus, overall, 139 families were sent surveys; 55 forms were completed and returned, for an overall response rate of 39.5 percent.

Characteristics of Respondents

Treatment Group:

The tracking system allowed us to describe some of the characteristics of the respondents and non-respondents from the CHIP families in our sample. These data are shown in Table 3.1. As the table indicates, between six and 19 percent of the demographic information is missing in the seven different categories. Therefore, a description of these respondents' characteristics is, by necessity, approximate rather than precise.

Table 3.1.: Characteristics of Treatment Group's Respondents and Non-Respondents to Parent and Child Development Opinionnaire (n = 68).

Characteristics	Respondents	Non-Respondents	Totals
Race			
White	24 (35%)	13 (19%)	37 (54%)
Black	5 (7%)	13 (19%)	18 (26%)
Unknown	5 (7%)	8 (12%)	13 (19%)*
Number of Adults in Household			
1	10 (15%)	18 (26%)	28 (41%)
2	23 (34%)	13 (19%)	36 (53%)
Unknown	1 (1%)	3 (4%)	4 (6%)
Education Level of Household Head			
< High school	10 (15%)	15 (22%)	25 (37%)
High school grad	15 (22%)	9 (13%)	24 (35%)
Some college	3 (4%)	6 (9%)	9 (13%)
College grad	0	0	0
Unknown	6 (9%)	4 (6%)	10 (15%)
Employment Status of Household Head			
Employed	18 (26%)	14 (21%)	32 (47%)
Unemployed	13 (19%)	14 (21%)	27 (40%)
Unknown	3 (4%)	6 (9%)	9 (13%)
Gender of Household Head			
Male	19 (28%)	12 (17%)	31 (45%)
Female	13 (19%)	20 (29%)	33 (48%)
Unknown	2 (3%)	2 (3%)	4 (6%)
Age of Household Head			
< 20 yrs.	2 (3%)	3 (4%)	5 (7%)
20 - 29	21 (31%)	14 (20%)	35 (51%)
30 - 39	6 (9%)	12 (17%)	18 (26%)
40 - 49	1 (1%)	0	1 (1%)
50 - 59	2 (3%)	0	2 (3%)
Unknown	2 (3%)	5 (7%)	7 (10%)
Length of Time Enrolled in CHIP			
< 1 yr.	4 (6%)	2 (3%)	6 (9%)
1 - 2 yrs.	15 (22%)	9 (13%)	24 (35%)
2 - 3 yrs.	11 (16%)	10 (15%)	21 (31%)
3 - 4 yrs.	4 (6%)	9 (13%)	13 (19%)
Unknown	0	4 (6%)	4 (6%)

*Note: Percentages may not total 100 due to rounding.

With this in mind, the findings suggest the majority of the treatment group's respondents were white rather than black; were living in households with two adults; were living in households headed by someone who did not go beyond a high school education, who were more likely to be employed than unemployed, who were under 30 years of age, and who were more likely to be male than female; and had their children enrolled in CHIP for two years or less. These characteristics are similar to the CHIP population's in the categories of age, education level, and employment status of household head, and the length of time enrolled in CHIP (see Table 2.1).

The respondents are dissimiliar to the population from which they were drawn in the categories of gender of family head (e.g., males formed the majority among the respondent families while females head the majority of all CHIP families) and number of adults in the household (e.g., most respondents have two adults in the household while a slight majority of all CHIP families have only one adult).

In sum, these 34 CHIP respondents were representative of the rest of the CHIP population in most ways. At the same time, households headed by males and containing two adults were slightly overrepresented among the respondents when compared to the CHIP population as a whole. The fact that only a minority of single mothers completed and returned the survey is probably not surprising, given the pressing demands on a single mother's time and energy.

Control Group:

As mentioned in the previous chapter, demographic data were not available from the group on CHIP's waiting list.

Between-Group Analysis

In order to describe similarities and differences between the two groups' responses, the researcher totaled each respondent's score and then used a t-test to compare the significance of the difference in the groups' means. As noted in Chapter 2, a low overall total would indicate a favorable set of responses, while a high overall total would imply an unfavorable set of responses. The survey contained 33 statements; thus, the lowest possible total score was 33 (indicating strong agreement with the favorable statements and strong disagreement with the unfavorable statements), and the highest possible total score was 132 (indicating strong agreement with the unfavorable statements and strong disagreement with the favorable statements). Each respondent's total score thus would fall between 33 and 132.

Attitude Ranges

The range of responses were then sub-divided into four groups:

Most favorable:	33--49
Favorable:	50--66
Unfavorable:	67--82
Most unfavorable:	>82

The "most favorable" range represents respondents who showed strong agreement with at least one half of the favorable statements (33 x 1.5 = 49). The "most unfavorable" range represents respondents

who showed disagreement with at least one half of the favorable statements (33 x 2.5 = 82.5).

Interestingly, the respondents' range of total scores was the same for both the treatment and control groups, from a low of 43 to a high of 69. Table 3.2 further describes the results of the two groups' overall scores. As the figures indicate, 91 percent (n = 31) of respondents from the treatment group fell within the "most favorable" or "favorable" range. The nine percent (n = 3) who were in the "unfavorable" range were in the low end of that range (that closer to "favorable"), with one each scoring 67, 68, and 69. The treatment group's mean was 55.6, with a standard deviation of 7.67 and a standard error of 1.32.

The control group showed similar positive responses, with 95 percent (n = 20) of respondents within the "most favorable" or "favorable" range. The only respondent in the "unfavorable" range had a total score of 69; again, close to the "favorable" range. The control group's mean was 53.2, with a standard deviation of 7.08 and a standard error of 1.54.

Overall, then, 93 percent (n = 51) of respondents were within the "most favorable" or "favorable" ranges; only seven percent (n = 4) were in the unfavorable range, and, as noted, they were all in the low end of that range (nearer to "favorable").

A two-sample t-test was used to examine the significance of the difference of the two groups' means. As noted, the groups' means were close: treatment group: 55.6; control group: 53.2. The t-score was 1.18 and a non-signifcant p-value of 0.715. Therefore,

Table 3.2.: Attitude Ranges for Treatment and Control Groups' Respondents

Attitude Ranges	Treatment (n=34)	Control (n=21)	Total (n=55)
Most Favorable (33 - 49)	9 (26%)	8 (38%)	17 (31%)
Favorable (50 - 66)	22 (65%)	12 (57%)	34 (62%)
Unfavorable (67 - 82)	3 (9%)	1 (5%)	4 (7%)*
Most Unfavorable (> 82)	0	0	0

*Note: Percentages may not total 100 due to rounding.

we cannot reject the null hypothesis, which states that there is no significant difference between the two groups.

Treatment and Control Groups' Responses to Opinionnaire's Statements

T-tests were also run to examine the differences in the two groups' responses to each of the opinionnaire's 33 statements. Again, strong similarity between the two groups' stated beliefs was demonstrated: differences in the groups' means did not reach a level of significance in response to 32 of the 33 statements. In response to statement #27 ("Discipline involves setting and enforcing limits in ways that help children learn about the reasons for appropriate behavior"), both groups indicated agreement, although the control group overall agreed more strongly (control mean = 1.15; treatment mean = 1.62). The t-test for this statement resulted in a t-score of 2.72 and a p-value of 0.024, indicating significant difference.

The results of the between-group tests suggest that the two groups have both favorable and remarkably similar beliefs regarding their children's development, at least as measured by this instrument. One might try to make a case for the idea that the CHIP parental education component actually has a negative impact on beliefs about child development due to the facts that the control group had a lower group mean and a higher percentage of favorable responses than the treatment group. However, the small sample size of the control group (n = 21) and the results of the

t-tests negate the validity of such an argument. These results might suggest that receiving the parental intervention did not significantly impact this treatment sample's beliefs about child development, as demonstrated at least by comparison to a control group's beliefs. This is somewhat surprising, given the fact that at least half of the treatment group had been enrolled in CHIP for two years or more and therefore could be assumed to have received several parenting lessons from the CHIP staff. On the other hand, the strong similarity in the groups' overall scores and the high percentage of favorable beliefs could indicate a weakness in the opinionnaire itself.

Pooling the Responses

Because the between-group tests indicated such a high level of similarity in responses, it was useful to pool the two groups' answers and examine the responses of all those who completed surveys (n = 55) to each statement. These results are shown in Table 3.3. These data indicate a strong homogeneity in the responses to each statement. To 30 of the 33 statements, over 88 percent of the total respondents either agreed with favorable statements or disagreed with unfavorable statements. Only three statements created a more diverse set of responses: #3 ("Children are normally curious about sex"; while 81 percent agreed, six percent disagreed, and 13 percent marked "don't know"); #4 ("Sex play is a normal part of a child's growth and development"; 33 percent agreed, 51 percent disagreed, and 16 percent stated they

Table 3.3.: Frequency of Responses to Each Statement of the Parent and Child Development Opinionnaire (Combination of Control and Treatment Respondents: n = 55).

Statements	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
1. Quarrels between siblings/normal.*	13 (24%)	40 (73%)	1 (2%)	0	1 (2%)**
2. Parents and children doing things together builds good relationships.	46 (84%)	7 (13%)	1 (2%)	0	1 (2%)
3. Children are normally curious about sex.	4 (7%)	41 (74%)	2 (4%)	1 (2%)	7 (13%)
4. Sex play/normal part of child's dev.	0	18 (33%)	16 (29%)	12 (22%)	9 (16%)
5. Children should look for answers through play, explor., and adults' help.	18 (33%)	32 (58%)	2 (4%)	1 (2%)	2 (4%)
6. Strong family ties makes social adjustment easier for young children.	30 (55%)	23 (42%)	0	0	2 (4%)
7. Toys children can handle and do things with are usually their favorites.	18 (33%)	34 (62%)	1 (2%)	0	2 (4%)
8. Reading with children helps develop reading interest and skills.	38 (69%)	17 (31%)	0	0	0
9. Love and respect help develop positive family relationships.	45 (82%)	10 (18%)	0	0	0
10. One way children learn is by asking "how" and "why" questions.	33 (60%)	21 (38%)	1 (2%)	0	0
11. Spoken words, hugs, facial expressions from others help child dev. good relationships.	35 (64%)	20 (36%)	0	0	0
12. Children feel good about selves when parents listen & talk with them.	39 (71%)	16 (29%)	0	0	0
13. Limits & rules help develop sense of security and self-discipline.	35 (64%)	19 (34%)	0	0	1 (2%)
14. Children learn to listen and express selves when parents listen & talk with them.	33 (60%)	20 (36%)	0	1 (2%)	1 (2%)
15. Children learn responsibility by doing simple jobs around house.	30 (55%)	23 (42%)	0	1 (2%)	1 (2%)
16. Children learn responsibility doing things for selves (e.g., feeding/dressing selves).	35 (64%)	20 (36%)	0	0	0
17. Children learn how to get along with others through playing with others.	30 (55%)	25 (45%)	0	0	0
18. Children treated with respect develop positive feelings about selves.	31 (56%)	23 (42%)	0	0	1 (2%)

*Note: Wording of statements is altered slightly here to save space. See Appendix 1 for original phrasing of statements.
**Note: Percentages may not total 100 due to rounding.

Table 3.3. (continued): Frequency of Responses to Each Statement of the Parent and Child Development Opinionnaire (Combination of Control and Treatment Respondents: n = 55).

Statements	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
19. Children do better in school if routines & limits at home.*	22 (40%)	27 (49%)	2 (4%)	0	4 (7%)**
20. Children use their senses to explore and learn about world.	30 (55%)	24 (43%)	0	0	1 (2%)
21. Child's school experience more positive if parent involved in school activities.	26 (47%)	26 (47%)	2 (4%)	0	1 (2%)
22. Parents can show interest in child's ed. by working with teachers.	30 (55%)	24 (43%)	1 (2%)	0	0
23. Children have more positive ed. experience when parents talk with them about school.	34 (63%)	19 (35%)	0	1 (2%)	0
24. Child should not be compared with others because each is an individual.	41 (76%)	12 (22%)	0	0	1 (2%)
25. Children develop security when parents allow them to express good/bad feelings.	24 (44%)	28 (51%)	1 (2%)	0	2 (4%)
26. Normal for two-yr. old to oppose will of parents.	13 (24%)	28 (53%)	7 (13%)	1 (2%)	4 (7%)
27. Discipline involves setting/enforcing limits/ help children learn reasons for appropriate behaviors.	32 (58%)	20 (36%)	2 (4%)	0	1 (2%)
28. It does not make much sense to talk to babies before they understand meanings of words.	3 (5%)	2 (4%)	20 (36%)	29 (53%)	1 (2%)
29. Attending to baby whenever/cries during first few weeks of life results in spoiled child.	0	0	22 (40%)	31 (56%)	2 (4%)
30. Children understand words before/able to speak.	20 (36%)	29 (53%)	2 (4%)	0	4 (7%)
31. Leaving baby in crib or playpen all day not harmful.	0	4 (7%)	18 (33%)	33 (60%)	0
32. Children learn through play as they touch objects in different ways.	19 (34%)	32 (58%)	1 (2%)	1 (2%)	2 (4%)
33. Child should not be compared with another because each grows at his own rate.	27 (49%)	27 (49%)	0	0	1 (2%)

*Note: Wording of statements is altered slightly here to save space. See Appendix 1 for original phrasing of statements.

**Note: Percentages may not total 100 due to rounding.

did not know); and #26 ("It is normal for a two-year old child to oppose the will of his/her parents"; while 77 percent agreed, 15 percent showed disagreement, and seven percent marked "don't know").

Given the sensitivity of the issue of children and sexuality, it is perhaps not surprising that the range of responses was greater to statements #3 and #4 than to the majority of statements. Also, because the source of the opinionnaire was the agency that presently works or will work with these parents in support of their children's health, the parents may have shown more conservatism in these two particular answers than if the statements had come from another, more neutral source. Also, the term "sex play" in statement #4 is broad and somewhat vague, and could have been misinterpreted by some as meaning sexual activity between an adult and a child. Though most respondents agreed that two-year olds may normally disagree with their parents (statement #26), some parents who marked "don't know" to this statement noted in the margin that their only child was not yet two years old. Those who disagreed may have had children who were particularly docile at age two. Another possibility might be that some parents expect obedience from children, whatever their ages.

In sum, the results here suggest very little difference between the two samples' beliefs about child development, at least as measured by these tests. The strong similarities are demonstated in the identical range of total scores for both groups (from a low of 43 to a high of 69); the similarity of the groups'

means (53.2 and 55.6); the non-significant levels of difference in response to 32 of the 33 statements; and the large amount of agreement (88 percent and greater) to 30 of the 33 statements. Because the treatment group has received the parental intervention from CHIP and the control group has not, these findings might be felt to suggest that the intervention has not had a significant impact on these parents' beliefs about child development. However, such a conclusion cannot be drawn with any degree of assurance. For example, the instrument was not specifically designed to evaluate the parenting lessons given by the CHIP staff; rather, it is broad in focus and touches on a wide range of topics. Therefore, common sense and/or life experience with children may have dictated responses rather than participation in parenting lessons. Also, the small sample sizes of respondents weaken our ability to be more definite.

Within-Group Analysis

The researcher next examined the strength of association between available treatment group demographic data (number of adults living in the household; education level, employment status, and gender of the household head; and the length of time enrolled in CHIP) and their responses by using the Pearson product-moment test of correlation. (Note: no test of correlation was done with the variable of race because the sample of identified black respondents was so small [n = 5].) As with the between-group analysis, tests here were run both on responses to the survey as

a whole (using total scores) and on responses to each of the 33 statements.

Correlations between Demographic Data and Total Scores:

Table 3.4 displays the results of the tests of correlation between the demographic variables and total scores. As indicated, no association was found between education level of household head and total scores or between the length of time enrolled in CHIP and total scores. These lack of associations seem somewhat surprising. For example, one might assume that those enrolled in CHIP for a longer period would report more favorable responses than those enrolled a short time. However, as indicated in Table 3.1, our sample sizes are small, with 19 respondents enrolled for less than two years and 15 enrolled for more than two years. Also, the number and type of parenting lessons received by clients are determined by needs rather than the length of time one is enrolled. Therefore, it is possible that families enrolled for three months may have received more parenting intervention from CHIP staff than a family enrolled for three years.

As regards the lack of association between the education level of the household head and total scores, several interpretations are possible. Table 3.1 shows that only three responding family household heads are known to have gone beyond a high school education. Therefore, the majority of responding family household heads stopped their formal education during or just after high school. Thus, we can assume that most respondents have perhaps two

Table 3.4.: Correlations Between Demographic Data and Total Scores (Treatment Group)

Characteristic	Pearson Correlation Coefficients	P-values	Number of Observations
Number of Adults in Household	-0.331	0.060	33
Education Level of Household Head	0.050	0.800	28
Employment Status of Household Head	-0.310	0.089	31
Gender of Household Head	0.455	0.009	32
Length of Time Enrolled in CHIP	0.104	0.558	34

or three years' difference in education, rather than six or eight years' difference. Also, as suggested earlier, common sense, rather than participation in parenting lessons or courses in child development, may be all that was required in giving favorable or appropriate responses to this opinionnaire's statements.

Low levels of association were suggested between number of adults in the household and total scores ($r = -0.33$) and employment status of the household head and total scores ($r = -0.31$). However, tests on these variables resulted in p-values at levels of non-significance (number of adults in the household: p-value = 0.06; employment status of household head: p-value = 0.09). Thus, the null hypothesis cannot be rejected here.

Moderate association was displayed between gender of family head and total scores ($r = 0.455$, p-value = 0.009). Thus, households headed by males tended to have lower means (and thus more favorable responses) than households headed by females. The majority of female household heads were single parents (nine females indicated they were the household head and the only adult in the family while four females were the household heads in families with two adults). Therefore, the findings that women household heads tended to respond less favorably overall is perhaps not surprising, given the extra demands upon single parents. As cited in Chapter 1, studies (Belle & Dill, 1982; McLoyd & Wilson, 1990) suggest low income single mothers are at high risk of depression, which can lead to less nurturant behavior toward their children.

Correlations between Demographic Data and Opinionnaire's Statements:

Tests of correlation were next run to examine the level of association between the demographic variables and responses to each of the 33 statements. Once again, the Pearson product-moment test of correlation was used. These results are described below.

Number of Adults Living in the Household:

Moderate levels of association were indicated in response to two statements, both of which dealt with the subject of children and responsibility: #15 ("Children learn responsibility by doing simple jobs around the home"; $r = -0.46$, p-value = 0.007) and #16 ("Children learn responsibility doing things for themselves [e.g., feeding and dressing self"]; $r = -0.46$, p-value = 0.007). Thus, respondents from two-adult households tended to agree with these two statements more strongly than single-parent respondents. This is perhaps not surprising given the extra time and energy required to teach a child how to do chores or to clean up after a child who is learning to feed herself.

Tests of correlation with this demographic variable failed to reach a level of significance in the responses to the other 31 statements.

Education Level of Household Head:

A moderate level of association ($r = -0.45$, p-value = 0.015) was seen between this variable and responses to statement #8 ("Reading with children helps them become interested in reading and

develop good reading skills"). Therefore, respondents from families in which the household head had not completed high school tended to show less agreement to this statement than did respondents from families in which the household head had completed high school. This finding supports the results of Mitchell (1992), who found that as the education level among CHIP parents increased, so did the percentage of parents who reported they read with their children.

Tests of correlation in this category failed to reach a level of significance in the responses to the other 32 statements.

Employment Status of Household Head:

In this category, a moderate level of association was found in the responses to only one statement: #7 ("Toys and objects that children can handle and do things with are usually their favorites"; $r = -0.48$, p-value = 0.006). Thus, respondents from families in which the head of the household was employed tended to agree less strongly than did respondents from families in which the household head was unemployed. It is difficult to attempt to explain or interpret such an association for several reasons: the employment status of the household head may have changed between the time of intake and completing this survey; the respondent may well be a spouse who is unemployed and, thus, employment does not become a factor in the response.

Age of Household Head:

A moderate association was indicated between this variable and responses to statement #15 ("Children learn responsibility by doing simple jobs around the house"; r = -0.46, p-value = 0.007). This suggests that respondents from households headed by younger adults agreed less strongly with this statement than respondents from households headed by older adults. Again, interpreting such an association is made difficult by the fact that the respondent may not have been the household head.

Tests of correlation in this category failed to reach a level of significance in the responses to the other 32 statements.

Gender of Household Head:

Moderate levels of association were found between this variable and responses to three of the opinionnaire's statements. As might be expected, negative correlations seen among responses from households headed by males were matched by positive correlations in responses to the same statement in households headed by females. For example, in response to statement #10 ("One way children learn about themselves, other people, and the world around them is by asking 'how' and 'why' questions"), moderate association was seen: r = -0.41, p-value = 0.015 in household headed by males; r = 0.40, p-value = 0.018 in households headed by females. In other words, respondents from households headed by males tended to agree less strongly than respondents from households headed by females. Analysis of this association is

again complicated by our lack of knowledge of who in the family completed the survey. However, one possible suggestion could be that women, who generally have greater child care responsibilities than men, might be more knowledgeable about the sorts of questions young children ask.

Moderate association was also indicated in response to statement #15 ("Children learn responsibility by doing simple jobs around the home"); r = -0.52, p-value = 0.001 in households headed by males; r = 0.52, p-value = 0.001 in households headed by females. Again, because women tend to spend more time with young children than men do, women are perhaps more likely to be the adults who teach or encourage children to learn how to do simple chores.

Statement #19 ("Children do better in school if there are routines and limits at home") also demonstrated moderate association: r = -0.43, p-value = 0.01 in households headed by males; r = 0.47, p-value = 0.005 in households headed by females. These results indicate that respondents from households headed by males tended to agree less strongly to the statement than respondents from households headed by females.

Tests of correlation in this category failed to reach a level of significance in the responses to the other 30 statements.

Length of Time Enrolled in CHIP:

A low level of association was seen between this variable and the responses to statement #28 ("It does not make much sense to

talk to babies before they understand the meaning of words"; r = -0.38, p-value = 0.03). These results indicate that parents whose children had been enrolled in CHIP for more than two years tended to disagree more strongly to the statement than parents whose children have been enrolled for less than two years. This suggests that parents who have been in CHIP for more than two years are slightly more knowledgeable about young children's methods of language-learning than are parents who have been in CHIP for less time.

Tests of correlation in this category failed to reach a level of significance in the responses to the other 32 statements.

Summary

In sum, the results of tests of correlation between the available demographic data on the treatment group and their responses to the survey's statements reveal little interaction. Moderate association was seen between only one variable (gender of family head) and total scores. In the 198 tests between the demographic variables and the responses to each of the statements (6 variables x 33 statements = 198), only 12 (six percent) resulted in an association that reached the level of significance. In addition, even when differences in responses were indicated based on demographic variables, the differences were typically between the strength of agreement to a statement (e.g., between "strongly agree" and "agree") rather than between agreement or disagreement to a statement. As indicated by the results of the between-group

tests, the results of the within-group tests suggest a high level of homogeneity among the responses to the opinionnaire.

CHAPTER 4

Discussion and Recommendations

Discussion

This study's findings indicate several aspects of child development about which parents could be better informed or to which CHIP outreach workers might wish to give extra attention. The between-group test results suggest some confusion and/or anxiety related to young children's interest in sex. Straightforward information about the issue of children and sex could reassure as well as educate parents about the subject. Also, because disagreement was seen about whether it is normal for two-year olds to oppose their parents' will, parenting lessons focusing on cognitive ability and behavioral stages of young children might be useful. Otherwise, the possibility exists for first-time or uninformed parents to mistake normal exploration or a young child's egocentrism for disobedience or selfishness.

Within-group findings also provide some possible insight about some of the more vulnerable segments of CHIP clients or into potential "problem areas" for some parents. For example, women heads of households, particularly when single parents, demonstrated less favorable parenting beliefs than men heads of households. This fact may suggest the need for additional sources of support and/or more intensive parenting lessons for single mothers. Results from tests of correlation on responses to individual

statements imply that parents need information about: the importance and methods of teaching young children about responsibility; the appropriateness and significance of children asking "how" and "why" questions; and the importance of stimulating children by often talking to and reading to them.

This study's findings do not allow us to describe the CHIP parental component as ineffective or even as having a non-significant impact, despite the similar and favorable responses of both the treatment and control groups. Such a conclusion cannot be drawn with any degree of assurance for a number of reasons: the small number of respondents, especially from the waiting list; the opinionnaire's identified source as CHIP; and the fact that the opinionnaire was not designed to specifically evaluate the parenting lessons delivered by CHIP nurses and outreach workers.

Nevertheless, the large percentage of favorable beliefs demonstrated here is somewhat encouraging. Responding parents indicate knowledge about, or at least recognition of, young children's needs and development. However, an additional reason for the high percentage of favorable responses and the homogeneity of answers might be related to one of the limitations in the use of surveys. As Isaac and Micheal (1981) point out: "Surveys arouse 'response sets' such as acquiescence or a proneness to agree with positive statements or questions" (pg. 128). The positive and homogeneous responses imply the likelihood of such "response sets" having occurred here. Again, because the survey was identified as coming from CHIP, parents may have felt the need to "say the right

thing," the promised anonymity of respondents notwithstanding. Also, in hindsight, the survey's design seems to lend itself to sets of responses rather than carefully considered responses to each statement. As noted earlier, the vast majority of statements (91 percent) in the survey seem to call for agreement. Additionally, the few which seem to call for disagreement are grouped close together near the end (#28, #29, and #31). Thus, the imbalance between favorable and unfavorable statements, coupled with the structure of placing the unfavorable statements near the end, could have increased the tendency to give the same response to almost all statements.

As cited in Chapter 1, Mitchell (1992), in an assessment of CHIP's intake forms, found a similarly high percentage of parents who reported themselves as very comfortable in their parenting skills, highly involved with their children, and above average in parenting satisfaction. The findings of this study seem to substantiate these favorable self-reports. However, Mitchell (1992) also notes that conversations with CHIP staff about parenting behavior show a more realistic picture than self-reports alone give. She notes: "(d)iscussions with CHIP outreach workers revealed that many parents who do a poor job of parenting tend to believe themselves very capable and good parents and rate themselves very high on the instruments" (pp. 73-74).

This discrepancy between reported beliefs and behaviors was described by CHIP public health nurses during informal interviews with this researcher also. Several nurses mentioned that they see

examples of strong discipline, such as the use of spanking or shouting and threatening, and hear harsh comments directed at children (e.g., "You drive me crazy!"). Two nurses specifically mentioned a desire that parents would talk more with their young children, rather than let them watch so much television, in an effort to stimulate them and help them learn. Another described how some parents have unrealistic expectations of their young children's abilities. She cited as an example a mother who expects her three-year old hyperactive boy to play easily with his one-year old sibling.

Common sense tells us that differences exist between beliefs and behaviors. Also, any parent, whatever their income level, can point to instances or patterns of poor or misguided behaviors toward their child or children and describe the difficulty of being a good parent during periods of emotional stress, illness, or fatigue. During a conversation with one CHIP nurse, she noted, "The knowledge of right behaviors is there (among the CHIP parents), but putting it into action is something else." McLoyd (1990), in her review of studies of low income mothers, discusses this idea also:

> "These mothers were not unaware of how negative psychological states affected their parenting behavior. They reported that among the hardest things to do when feeling depressed were being nurturant, patient, and involved with their children. These mothers also seemed to be aware that the parenting strategies they were most prone to use when depressed were, in the main, ineffective and changeworthy. Thus, psychological overload, rather than ignorance of the principles of effec-

> tive parenting, may explain differences between poor and nonpoor parents' style of interaction with their children" (pg. 328).

Though McLoyd's comments are related specifically to low income mothers who are depressed, her theme here, the difficulty of translating positive beliefs about parenting into consistent and nurturing parenting behaviors while living under stressful economic and psychological conditions, echoes the CHIP nurse's comment that "putting it into action is something else."

The focus of this study was on the beliefs about child development among two samples of low income parents. The alleged discrepancies between reported beliefs and actual behaviors are not included here to suggest that the responding parents are stretching the truth when reporting favorable beliefs. Nor should the inclusion here of descriptions of reported punitive or ineffective parenting behaviors be misconstrued as victim-blaming. Rather, this brief discussion of parenting behaviors is included here to note an awareness that the central challenge that the CHIP staff seems to face in the parental component of their work is not so much in changing incorrect parenting beliefs as it is in assisting parents in developing patterns of consistent, stimulating, and nurturing behavior toward their children. Because, in the end, it is the parents' behaviors, and not stated positive beliefs or intentions, that impact upon their children's health and development.

Recommendations

One of the perceived weaknesses of the instrument used in this study is that it is very broad in focus, touching on numerous aspects of child development, and that common sense and/or life experience with children could dictate the more correct response to any of the statements. The development of other parenting belief instruments which focus on one or two specific aspects of child development (e.g., the impacts of various forms of disciplining; language-learning; or the significance of developing self-esteem) could provide useful information and allow CHIP staff to better target their parenting interventions.

Finally, qualitative studies concerning parenting behaviors and the contexts in which they occur would be useful. These could be conducted through interviews with both CHIP staff and parents and home observations of these parents with their children. The findings of such studies could be used to effectively guide the planning and implementation of CHIP's parental component.

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APPENDIX 1

PARENTS AND CHILD DEVELOPMENT

Directions: Please read each question and respond to the question by placing an "X" under the response that most represents your attitude or feeling.

	Questions	Response: Strongly Agree (4)	Agree (3)	Disagree (2)	Strongly Disagree (1)	Don't Know (0)
1.	Quarrels and rivalry between brothers and sisters are usually a normal part of growing up.	____	____	____	____	____
2.	Parents and children doing things together helps build good parent-child relationships.	____	____	____	____	____
3.	Children are normally curious about sex.	____	____	____	____	____
4.	Sex play is a normal part of a child's growth and development.	____	____	____	____	____
5.	Children should be encouraged to look for answers to their questions through play, exploration, and with the help of adults.	____	____	____	____	____
6.	Strong ties between parent, child and other important people help make social and emotional adjustment easier for babies and young children.	____	____	____	____	____
7.	Toys and objects that children can handle and do things with are usually their favorites.	____	____	____	____	____
8.	Reading with children helps them become interested in reading and develop good reading skills.	____	____	____	____	____
9.	Loving and respecting each other help parents and children to develop positive relationships.	____	____	____	____	____

	Questions	Response: Strongly Agree (4)	Agree (3)	Disagree (2)	Strongly Disagree (1)	Don't Know (0)
10.	One way children learn about themselves, other people, and the world around them is by asking "how" and "why questions.	____	____	____	____	____
11.	Spoken words, hugs, and facial expressions from parents, friends, and others help children learn to develop loving and caring relationships.	____	____	____	____	____
12.	Children learn to feel good about themselves when parents and others listen and talk with them.	____	____	____	____	____
13.	Limits and rules help children develop a sense of security and self-discipline.	____	____	____	____	____
14.	Children learn how to listen and express themselves when parents and others listen and talk with them.	____	____	____	____	____
15.	Children learn responsibility by doing simple jobs around the home.	____	____	____	____	____
16.	Children learn responsibility doing things for themselves, (e.g., feeding and dressing self).	____	____	____	____	____
17.	Children learn how to get along with people through playing with adults and other children.	____	____	____	____	____
18.	Children who are treated with respect usually develop positive feelings about themselves.	____	____	____	____	____
19.	Children do better in school if there are routines and limits at home.	____	____	____	____	____

	Questions	Response: Strongly Agree (4)	Agree (3)	Disagree (2)	Strongly Disagree (1)	Don't Know (0)
20.	Children use their senses (seeing, hearing, touching, tasting, and smelling) to explore and learn about the world around them.	____	____	____	____	____
21.	A child's school experience is often more positive when the parent is involved in some of the school activities (e.g., parent-teacher conferences, PTA).	____	____	____	____	____
22.	One way parents can show interest in the child's education is by learning to know and work with the teachers.	____	____	____	____	____
23.	Children often have a more positive experience in school when their parents show interest in and talk with them about what goes on in school.	____	____	____	____	____
24.	A child should not be compared with other children because each person is an individual.	____	____	____	____	____
25.	Children develop a sense of security when parents accept and allow them to express their good and bad feelings.	____	____	____	____	____
26.	It is normal for a two-year old child to oppose the will of his/her parents.	____	____	____	____	____
27.	Discipline involves setting and enforcing limits in ways that help children learn about the reasons for appropriate behaviors.	____	____	____	____	____
28.	It does not make much sense to talk to babies before they understand the meaning of words.	____	____	____	____	____

	Questions	Response				
		Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
		(4)	(3)	(2)	(1)	(0)
29.	Attending to a baby whenever he/she cries during the first few weeks of life results in a spoiled child.	____	____	____	____	____
30.	Children understand words before they are able to speak.	____	____	____	____	____
31.	Leaving a baby in a crib or playpen all day is not harmful.	____	____	____	____	____
32.	Children learn through play as they touch, taste and handle toys and other objects in different ways.	____	____	____	____	____
33.	A child should not be compared with another child because each one grows at his/her own rate.	____	____	____	____	____

APPENDIX 2: COVER LETTER

CHIP (Comprehensive Health Investment Project)
402 Luck Avenue
Roanoke, VA 24016
February 25, 1992

Dear Parents:

Enclosed you will find a four-page survey with the title "Parents and Child Development." We are sending this survey to many of the CHIP parents and asking them to fill it out. The survey asks questions about your ideas of how your child develops. By filling out this survey, you give us a better understanding of your own ideas about yourself as a parent and your child's development. When you do this, we are working together on one of CHIP's goals: to promote your involvement in your child's health.

Your participation is voluntary, and your responses will be confidential. If you choose not to complete the survey, it will not affect your status as a CHIP client. But we hope you do fill out this survey because we value your answers. It takes only 5-10 minutes to complete. There are no right or wrong answers to the questions. We ask only for your honest responses.

After finishing it, please return it in the enclosed stamped envelope by March 13. Again, our purpose is to learn about your ideas of being a parent. The more we know, the better we can work together for your children's and your family's health.

Thank you very much. If you have any questions, please call the CHIP staff at 857-6993.

Sincerely yours,

Peggy Balla, RN, MPH
Project Director

APPENDIX 3

March 21, 1992

Dear Parent,

Several weeks ago the CHIP office sent you a survey about children and parents. Please take 5-10 minutes to fill it out and mail it back to us this week. Thank you for your help with this. If you have questions, call us at 857-6993.

Sincerely,

Peggy Balla, CHIP Director

VITA

Steven Stewart received his B.A. from the University of Arkansas in May, 1977. He then worked for three years as a high school teacher in rural Sierra Leone as a Peace Corps volunteer. When he returned to the U.S., he entered the graduate program in Creative Writing at the University of Arkansas, and received his M.F.A. in 1985.

After working for four years as an instructor of English at Virginia Tech, he entered the graduate program in Community Health Education at Virginia Tech, and received his Master's degree in May, 1992. His particular interests are maternal and child health, family planning, and STD/HIV education and prevention.

He has one son, Joseph Roy-Stewart.