

SCHOOL READINESS IN CHILDREN BORN TO HISPANIC ADOLESCENT  
MOTHERS COMPARED TO CHILDREN OF HISPANIC  
POST-ADOLESCENT MOTHERS

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A DISSERTATION  
SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS  
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COLLEGE OF NURSING

BY  
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DENTON, TEXAS

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TEXAS WOMAN'S UNIVERSITY  
DENTON, TEXAS


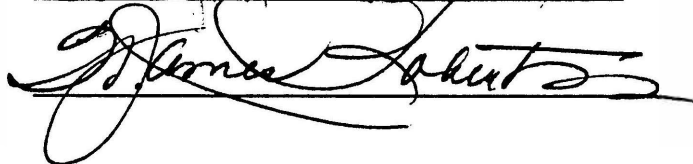
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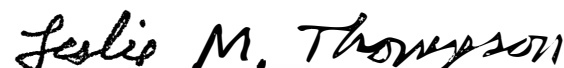
I am submitting herewith a dissertation written by Mary Dolores Garcia entitled "SCHOOL READINESS IN CHILDREN BORN TO HISPANIC ADOLESCENT MOTHERS COMPARED TO CHILDREN OF HISPANIC POST-ADOLESCENT MOTHERS." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Nursing.

  
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Major Professor

We have read this dissertation  
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## DEDICATION

This work is dedicated to the memory  
of my late grandfather, Jesus Muñoz,  
and to my grandmother, Modesta Muñoz.  
Their encouragement for me to get an  
education has been my guiding light.

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POST-ADOLESCENT MOTHERS

ABSTRACT

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A non-experimental, explanatory four-group research design was conducted to investigate the level of school readiness and quality of home environment of children of younger and older Hispanic adolescent mothers as compared to the school readiness scores of children of younger and older Hispanic post-adolescent mothers. Several community health-based pediatric clinics were used to select 113 subjects who were assigned to one of four groups according to maternal age. Instruments included the Family Information Questionnaire, the ABC Inventory to Assess Kindergarten and School Readiness, and the Home Screening Questionnaire. A one-way analysis of variance demonstrated that the level of school readiness was not influenced by maternal age. School readiness scores were not significantly different in the children born to adolescent mothers and children born to post-adolescent mothers. In addition, the quality of home

environment was not significantly different in the children born to adolescent mothers and children born to post-adolescent mothers. The quality of the home environment was found to be positively related to the school readiness scores of the children born to adolescent and post-adolescent mothers.

The Home Screening Questionnaire scores were found to be a predictor of school readiness. In this study it can be shown that developmental outcomes can be predicted from the home environment.



## TABLE OF CONTENTS

DEDICATION . . . . .	iii
ACKNOWLEDGEMENTS . . . . .	iv
ABSTRACT . . . . .	vi
LIST OF TABLES . . . . .	x
LIST OF FIGURES . . . . .	xii
CHAPTER	
1. INTRODUCTION . . . . .	1
Problem Statement . . . . .	6
Rationale for the Study . . . . .	7
Theoretical Framework . . . . .	13
Assumptions . . . . .	20
Hypotheses . . . . .	21
Definition of Terms . . . . .	23
Limitations . . . . .	25
Summary . . . . .	26
2. REVIEW OF LITERATURE . . . . .	27
Adolescence as a Developmental Stage . . . . .	27
Adolescent Pregnancy . . . . .	33
Adolescent Mothers and Their Children . . . . .	39
Relationship of the Home Environment in the Development of Children . . . . .	42
Measuring the Home Environment . . . . .	48
Significance of School Readiness and School Readiness Measurements . . . . .	49
Summary . . . . .	54
3. PROCEDURE FOR COLLECTION AND TREATMENT OF DATA . . . . .	56
Setting . . . . .	57
Population and Sample . . . . .	57
Protection of Human Subjects . . . . .	58
Instruments . . . . .	60
Data Collection . . . . .	66
Treatment of Data . . . . .	69

4.	ANALYSIS OF DATA . . . . .	72
	Description of the Sample . . . . .	72
	Findings . . . . .	92
	Results of the Home Screening . . . . .	93
	Summary of Findings . . . . .	103
5.	SUMMARY OF THE STUDY . . . . .	104
	Summary . . . . .	104
	Discussion of Findings . . . . .	106
	Conclusions and Implications . . . . .	115
	Recommendations for Further Study . . . . .	117
	REFERENCES . . . . .	119
	APPENDIX	
	A. Agency Approvals . . . . .	131
	B. Informed Consents . . . . .	133
	C. Questionnaires for Mother . . . . .	138
	D. Questionnaires for Child . . . . .	157
	E. Author's Permission to Use Instrument . . . . .	164
6.	CURRICULUM VITAE	

## LIST OF TABLES

### Table

1.	Frequency and Distribution of Ages (Years) of 113 Mothers Into Four Subgroups . . . . .	75
2.	Frequency and Percentage Distribution of Ages (Months) of 113 Children . . . . .	76
3.	Frequency and Percentage Distribution of Ages (Years) of 113 Fathers . . . . .	77
4.	Frequency and Percentage Distribution of 113 Children by Gender . . . . .	78
5.	Frequency and Percentage Distribution of Marital Status by Subgroup . . . . .	79
6.	Frequency and Percentage Distribution of Income by Subgroups . . . . .	80
7.	Frequency and Percentage of People Living in the Home with the Child . . . . .	82
8.	Frequency and Percentage Distribution of Financial Support by Subgroup . . . . .	83
9.	Frequency and Percentage Distribution of the 113 Mothers Who Reported Educational Attainment by Four Subgroups . . . . .	85
10.	Frequency and Percentage Distribution of How Often 113 Fathers See Child as Reported by Subgroup . . . . .	88
11.	Frequency and Percentage of Primary Caretaker . . .	90
12.	Frequency and Percentage Distribution of Age (Years) of Mother by Subgroup . . . . .	91
13.	Frequency and Percentage Distribution of Readiness Age of 113 Children by Subgroup . . .	93
14.	Frequency and Percentage Distribution of HSQ Scores of 113 Children by Subgroup . . . . .	95

15.	One-Way Analysis of Variance in Readiness Age of Subgroups . . . . .	97
16.	One-Way Analysis of Variance in Quality of Home Environment of Subgroups . . . . .	98
17.	Covariance with Repeated Measures for School Readiness by Subgroup . . . . .	100
18.	Covariance with Repeated Measures for Home Environment by Subgroups . . . . .	103

## LIST OF FIGURES

### Figure

1. Erikson's Eight Stages of Life with  
Approximate Ages . . . . . 14

## CHAPTER 1

Teenage pregnancy is a major national health problem. On the national level, each year one million teenagers become pregnant (Guttmacher, 1976, 1981; Henshaw & Van Vort, 1989). Almost half a million teenagers who give birth are aged 15 to 19 years, while girls under 15 years of age experience more than 31,000 of these births (Guttmacher, 1989). This means that one of every six babies born in the United States is born to a teenager. Statistics indicate that 461,905 teenage girls give birth each year with a national birth rate of 50.6/1,000. About 60% of these teenagers will deliver at term, while about 40% of these teenagers terminate the pregnancy by elective abortion. Of the teenagers that carry the pregnancy to term, 96% choose to keep their babies (Smith, Guerrero & May, 1987). Of the 96% who kept their babies, fewer than half marry, thus these mothers become single parents.

In Texas, 82,320 teenagers between 15 and 19 years old become pregnant each year. Of these pregnant Texas teenagers, 44,220 give birth each year with a birth rate of 73/1000. In other words, one in every four babies born in Texas is born to a teenage mother (Henshaw & Van Vort, 1989). The Texas birth rate for teenagers is almost 50%

higher than the national birth rate for teenagers.

Adolescent childbearing poses potential health problems for the mother, including preeclampsia, toxemia, and death. Additionally, profound lifestyle changes occur as there has been an increase in teenage mothers choosing to keep their infants (Mercer, Hackley, & Bostrom, 1984). The problems faced by adolescent mothers include emotional stress, disrupted education, unemployment, poverty, and welfare dependency, as well as forced early marriages with additional pregnancies and a higher incidence of divorce (Becerra & de Anda, 1984; McAnarney & Hendee, 1989a; Ruff, 1987; Upchurch & McCarthy, 1989). Furthermore, the quality of adolescent mothering is questionable, and a number of researchers have suggested that it is problematic (Wadsworth, Taylor, Osborn, & Butler, 1984). Young mothers are characterized as insensitive, impatient, and more likely to use physical punishment with their children. Adolescent mothers do not understand how an infant grows and develops or how to meet the needs and demands of growth and development for the child (Jarrett, 1982). Studies indicated that adolescent mothers offer their children less stimulation including verbal interaction, play, and cuddling behavior (Sandler, 1979; Coll, Hoffman, & Oh, 1987; McAnarney & Hendee, 1989a). These issues become concerns because research shows that the mother's behavior affects

not only maternal-infant attachment, but the infant's cognitive, linguistic, emotional, and social development (Coll, Vohr, Hoffman & Oh, 1986). Children of adolescent mothers seem to exhibit slower developmental growth than do children of post-adolescent mothers (Coll et al., 1986).

The influence of environmental factors on growth and development has been documented by numerous investigators (Coll et al., 1986; Fowler & Cross, 1986; Lindsay & Wedell, 1982; Siegel, 1982). These investigators concurred on the following factors. In the United States, half of the children living in economically disadvantaged homes experience school difficulties which include academic failure as well as emotional and behavioral problems. Many of the school problems may be environmentally based. In addition, long-term deficits in cognitive stimulation account for a great number of school problems. Many of the school problems these children experience have been alleviated with early institution of intervention and follow-through (Wadsworth, et al., 1984).

The psychosocial development of the children of adolescent mothers is dependent upon variables of maternal age, socioeconomic status, educational level of the mother, and attendance of the child in a daycare center (Baldwin & Cain, 1980; Norbeck & Anderson, 1989). Parents' ages, psychosocial and educational needs can inhibit their ability



to provide an environment which enhances the emotional, social, affective, and cognitive development of their children. The social and emotional deficits, although present, are not as pronounced as the cognitive disturbances (Coll et al., 1986). Deficits in the cognitive development of children, especially males, born to teenagers result from the social and economic consequences of early childbearing (Baldwin & Cain, 1980; Trussell, 1988).

In addition to maternal age, psychosocial demographic factors have been associated with poor developmental outcomes for children born to adolescent mothers. These psychosocial factors include attendance at day care and preschool, sex of the child, educational background of the mother, and presence or non-presence of the father or grandmother in the home (Coll et al., 1986). On the other hand, it has been suggested that children of adolescent mothers may do better cognitively, emotionally, and socially than children born to older mothers because the grandmother becomes the "mothering" caretaker (Ruff, 1987). The older, more experienced caretaker is likely more concerned about the child's development (Furstenberg, 1976).

Most researchers who focused their studies on children born to younger adolescent mothers included only black and/or caucasian mothers (Felice, Shragg, James & Hollingsworth, 1987). Of those researchers who approached

cultural differences, most did not include the Hispanic teenage mother despite the fact that the United States has the sixth largest Hispanic population in the world and is exceeded only by Mexico, Spain, Columbia, Argentina, and Peru (Felice et al., 1987). For example, in Texas alone, the birth rate for Hispanic women aged 14 to 44 years in 1980 was 95.4 births per 1,000 women. This birth rate was 53% (62.4/1000) higher than the rate for white women and 5% above the rate for black women (90.9/1000) (Smith & Wait, 1986). More currently, in Texas, the total population of Hispanic women in the childbearing years, ages 13 to 44, is 991,142. Of these women, 76,810 between 20 and 44 years give birth with a birth rate of 103.95/1000. Of the 13 to 19 year old adolescent women, 18,640 give birth which yields a birth rate of 73.91/1000 for teenage Hispanics (Henshaw & Van Vort, 1989).

The children of adolescent Hispanic women represent a segment of the future labor force that will be expected to support the growing elderly population. If they are to contribute rather than be a burden, these children need to be healthy and well-educated (Guendelman, 1985). Both economic and social circumstances, such as increasing poverty, necessitate the need for assessment of Hispanic children. Thus, it is important to determine if deficits exist in the children of adolescent mothers of Hispanic

origin. School readiness is an indicator of cognitive, social, and emotional maturity in children (Wood, Powell & Knight, 1984). Therefore, a study of school readiness in children born to adolescent Hispanic mothers, as compared to children born to post-adolescent Hispanic others, will add to the body of knowledge concerning developmental and educational needs of Hispanic children.

#### Problem Statement

Children of adolescent mothers suffer more physical, emotional, and intellectual handicaps than do children of post-adolescent mothers (McAnarney, Lawrence, Aten, & Iker, 1984). Investigators (Card, 1978; David & Baldwin, 1979) reported that younger maternal age is associated with lower intelligence quotient scores in the child. However, researchers have not clearly documented what effect maternal age has on the social and emotional development of the child. Because of the paucity of knowledge regarding the cognitive, social, and emotional readiness of Hispanic children for school, this study was designed to address the following questions: Is there a difference between the level of school readiness of children of adolescent and post-adolescent mothers of Hispanic origin? Is the level of school readiness positively related to the quality of home

environment in children of both Hispanic adolescent and post-adolescent mothers?

### Rationale for the Study

Adolescence and early parenthood are both times of transition. Sadler and Catrone (1983) pointed out that both periods involve emotional, social, physical growth and developmental turmoil. Stress is amplified when these two transitions are superimposed upon each other. The adolescent is forming an identity and autonomy from family; cognitive/affective functioning and self-concept undergo change. These changes occur through early, middle, and late adolescence. According to Sadler and Catrone (1983), if pregnancy occurs at this time, a developmental crisis (parenthood) occurs as well. Ruff (1987) noted that the period of early parenthood extends from the birth of the child to adolescence. Therefore, the adolescent mother is not socially and emotionally mature enough to assume the responsibility for an infant with physical and emotional needs, and she often chooses inappropriate child care (Ruff, 1987).

Poor consequences for children born to adolescent mothers have been related to maternal age. However, they have also been associated with other psychosocial demographic variables. These include income level of the

mother, primary caretaker, maternal education, marital status, employment, number of people living in the home, gender of the child (females do better on intelligence scales than boys), attendance in a daycare or preschool (Card, 1978; David & Baldwin, 1979; Hofferth, 1987a; 1987b).

The effects of growing up in disadvantaged environments are often observed in the school-aged child. In the United States, 50% of the children from disadvantaged environments experienced school difficulties including academic failure and emotional or behavioral problems (van Doorninck, 1978). Many of these school problems may be environmentally based. It has been suggested that long-term deficits in cognitive stimulation may account for the greatest number of school problems (Ruff, 1987). In addition, van Doorninck (1978) found that achievement was significantly correlated with measures of the mother's verbal responses to the child and/or provision of play materials. Thus, children who experience school problems can be helped if appropriate intervention and follow-through programs are instituted early (van Doorninck, 1978).

Children born to adolescent mothers have more physical deficits, including low birth weight and prematurity, than do children born to post-adolescent mothers (Furstenberg, Brooks-Gunn & Morgan, 1987). It has been reported that development in the children of adolescent parents is poorer

(Ruff, 1987); however, little is known about the developmental outcomes of these children after they reach 2 years of age. Ruff (1987) reported that maternal age is linked to cognitive development in the child. Where adolescent parenting is attributed to delays in development of children, little is known about the developmental outcomes specific to children born to post-adolescent mothers. Therefore, a one way analysis of variance was conducted to investigate differences in these two groups of children. Investigators (Mercer, et al., 1984; Scholl, Decker, Karp, Greene & DeSales, 1984), suggested that poor developmental outcomes for children of adolescent mothers may be accounted for by low scores in children of younger adolescent (less than 15 years) mothers. Because no studies were found that compared developmental outcomes in children of younger adolescents (less than 15 years) and children of older adolescent mothers (between 15 and 19 years), a one way analysis of variance was done to investigate differences within the adolescent mothers. Children of post-adolescent mothers were investigated similarly due to the same lack of available information.

Plumb (1988) investigated the effect of maternal age on cognitive development of school age children. She studied the school readiness scores of black children born to, and living with, adolescent mothers. The study was focused

primarily on the cognitive, social, and emotional development of black children. The basis of Plumb's study was the premise that school readiness is a measure of cognitive, social, and emotional development' and that maternal age has an effect on the development of children. Plumb found there was a significant difference in the school readiness scores of black children according to maternal age.

In 1982, the U.S. Census Bureau reported that Hispanics were the second largest, fastest growing, and youngest minority in the United States (Deyo, 1984; Montanez & Kohn, 1978). This migration of Hispanics has resulted in a young, fertile, childbearing population. Of those migrating, one-half were 18 years of age and under. In 1980, the fertility for Hispanic women aged 15 to 44 years was 94.5 births per 1000, which was 53% higher than for white women (62.4/1000) and 5% above the rate for black women (90.9/1000). This higher birth rate resulted in the increased size of the Hispanic family. Of all Hispanic households, 45% have four or more people in the family versus 20% of non-Hispanic American families (*Time*, 1985).

Of Hispanics in Texas, 91% were of Mexican origin, and in 1980, one-third of all Mexican-Americans lived in Texas. These figures are important since Texas ranks second in

number of Hispanics, with most of them concentrated in the Gulf Coast and South Central areas of Texas. Of these, 60% live in central cities and 80% are in metropolitan areas. Furthermore, Texas data indicated that Hispanic adolescent women have a high degree of conception and pregnancies. In 1984, 30% of all live births in Texas were to Hispanics, and 20% of these Hispanic births were to women under 20 years of age. In 1984, the Texas birth rate for Hispanic women surpassed that of Anglo adolescents (Smith & Wait, 1986), yet the research surrounding children born to adolescent parents has been focused on the physical deficits of these children. Because the birth rate for Hispanic adolescent women is high, the effect of maternal age on cognitive development of their children needs to be evaluated.

The cognitive, social, and emotional development of children born to Hispanic children are important factors in their development into adults that can influence society. A lack of information on cognitive, social, and emotional development in Hispanic children and the sparse information on the effects of maternal age on the development of children requires further study. School readiness has been found to be a valid indicator of cognitive, social, and emotional maturity of children (Plumb, 1988). Therefore, this study was designed to evaluate the school readiness of children of adolescent and post-adolescent Hispanic mothers.



The results of this study may provide information to help determine if the children of Hispanic adolescent mothers have, or are at risk for, delayed school readiness. This information can increase awareness of nurses, social workers, and educators to the developmental delays of children of Hispanic adolescent mothers. In addition, this information can assist in refining screening tools and improving the accuracy of psychosocial assessments for Hispanic families. Specifying developmental delays to which Hispanic children are vulnerable helps channel patients to the services and resources likely to reduce threats to school readiness delays. The findings may provide information about parenting effectiveness of adolescent mothers which, in turn, can provide a framework for the development of parent education that is sensitive to Hispanic adolescent parents and their infants.

Knowledge of risk factors can contribute to the development of programs that keep pace with the needs of the growing Hispanic population and reduce disparities in health status and service utilization with other ethnic groups. A high priority would be implementation of services that monitor children's health from the prenatal stage through adolescence.

### Theoretical Framework

The theoretical framework for this study is based upon the theory of psychosocial development postulated by Erikson (1963). Erikson's theory has its basis in developmental tasks or stages with each stage or task building upon the previous stage. Erikson (1968) noted that individuals develop from one stage to the next when they are biologically, psychologically, and socially ready. He identified eight stages of life (Figure 1). Individuals who do not master the tasks at each developmental phase are at a disadvantage because they are unprepared to proceed to the following stage.

The first of Erikson's (1968) stages, trust versus mistrust, provides the foundation for future development. When needs are met, the infant develops a sense of trust. The infant relates to forms of comfort and people associated with them; this security allows the child to be less upset with changes in routine. This security allows the infant to accomplish his first social achievement of tolerating the comforting caregiver(s) to be out of sight. Because the child has an inner certainty and outer predictability, the child can allow the caregiver to be out of sight without undue anxiety.

Erikson's (1968) second stage is autonomy versus shame and doubt. In this stage, the child is able to explore and

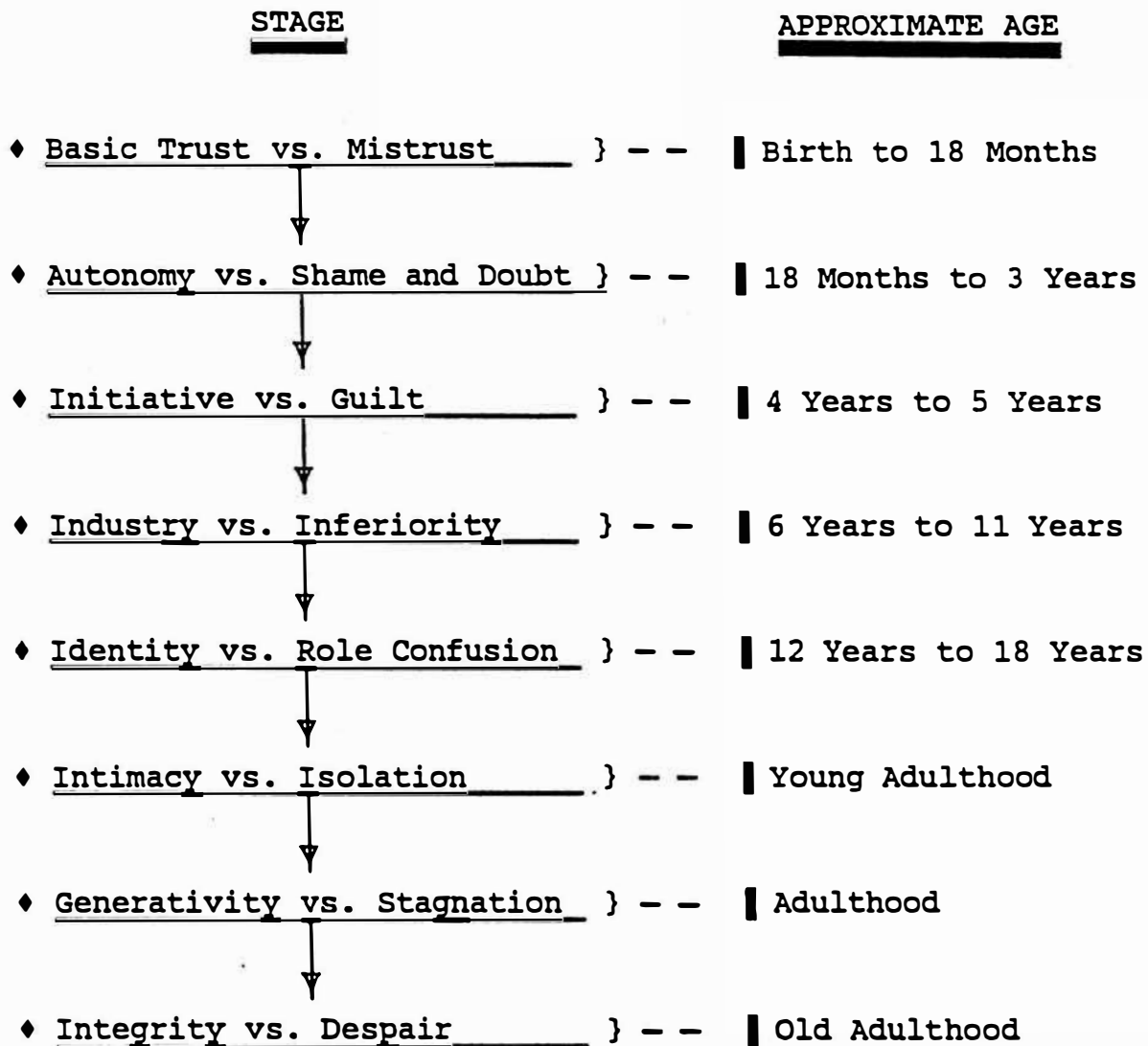


Figure 1. Erikson's Eight Stages of Life with Approximate Ages

master the environment and, through this, to attain independence or autonomy. The parent needs to allow exploration and mastery of the environment if independence or autonomy is to be achieved. Erikson (1968) indicated that the freedom given to the child and the limits or boundaries set by the caregiver, usually the mother, can influence the child's later development. Additionally, Erikson (1968) reported that the infant's cognitive development is a function of maternal responses to infant behaviors. Therefore, maternal responses affect the mother-infant relationship, which in turn, determine the degree to which the infant feels secure in exploring the environment. Therefore, allowing the infant to explore is important because it enhances the child's cognitive development.

The third of Erikson's (1968) stages is initiative versus a sense of guilt. During this stage, the child controls the environment as opposed to the previous state in which the environment controlled the child's actions. The child is able to initiate activities and ask questions. If the parent restricts the activities of the child, belittles the child, or does not answer the child's questions, the child develops a sense of guilt. This guilt may lead to reluctance or refusal to initiate action requiring motor or language skills.

The fourth stage of development, according to Erikson (1968), is industry versus inferiority. The challenge is to create and complete projects. In addition, the child begins to form genuine human relationships. Children become competitive, and peers play an important role in accomplishing the developmental tasks of this stage. If the parent or significant others ridicule the child, the child develops a sense of inferiority. Children's relationships within the group and their self-esteem may be in danger if they perceive who they are and what they do as not being good enough.

The task of the adolescent is to achieve a sense of self, and this task is accomplished in Erikson's (1968) fifth stage of development, identity versus role confusion. During this stage, past experiences and social interactions must be integrated with present physical and sexual maturity. The quality of the adolescent's decisions is dependent upon an identity formation. Peers are important and they support, or influence, how an adolescent fits into the different roles that are assumed. In this stage, the adolescent develops patterns of heterosexual activity. The adolescent has a need to focus on members of the opposite sex. Within Erickson's framework, an adolescent mother may have difficulty separating her feelings from those of her

child. The adolescent may find herself competing for attention from her family, boyfriend, or friends.

According to Erickson (1963), young adulthood is associated with the developmental task of developing an intimate relationship with another person while trying to overcome a sense of isolation. The environment is expanded to the work place. Rearing a child instead of laying the foundation for a personal and professional life could create a sense of isolation for the adolescent mother.

During this time, the quality of the relationship between a mother and infant affects the growth and development of the child, and many factors enter the interaction. One important factor is the developmental age of the mother, and this maternal age affects the progression of the child through the stages of the human life cycle (Erikson, 1968). The child born to an adolescent mother is at risk for an ineffective mother-child interaction because of the mother's own developmental crises. The adolescent mother may not establish good maternal bonding with the baby because she has not separated her feelings from those of others (Erickson, 1963).

The label Erikson (1963) gave to the seventh stage of life, adulthood--21 to 45 years of age, is generativity versus stagnation. This period of life is marked by establishing a family and guiding the next generation.

Optimally, the tasks of pregnancy and childrearing/parenting should occur during this period of development (Erikson, 1963). If these tasks are undertaken at an earlier stage, the developmental tasks of the earlier stage may be inhibited in both the mother and the child.

Adolescence is a period of time between childhood and adulthood. It is defined more by physiological and psychological maturity than by chronological age (Sadler & Catrone, 1983). Adolescents may be physiologically mature, but they are usually psychologically immature and lack a firmly developed identity (Erikson, 1968). In addition, adolescents lack the cognitive maturity to consider the needs of others as more critical than their own needs (Piaget, 1972). Adequate mothering has been characterized by a secure sense of one's identity and the ability to place the needs of others above one's own. The dilemma existing in adolescent parenting is that the mother may be in the midst of a dual developmental crisis: the developmental stage of adolescence as well as the developmental phase of early parenthood. Needs or problems arising from one crisis may conflict with needs or problems of the other crisis. Because adolescent parents are usually egocentric and narcissistic and are in conflict with the parent's need to form a relationship with the infant, they are unable to deal with the developmental crisis of the child. Adolescent

parents are still in the process of mastering their own tasks and are unable to handle those of another individual, their child (Sadler & Catrone, 1983).

Erikson (1963) supported the idea that all environmental factors, including those outside the range of direct influence upon the child, have relevance to the emotional development of the child. Within Erikson's (1963, 1968) framework, each environmental factor within or beyond an individual's immediate field of experience has influence on a child or on the child's environment which, in turn, influences the child. According to Erikson (1963, 1968), the manner in which the child responds to environmental obstacles is dependent upon the adaptive power and creative capacity of both the individual and the social environment. Erikson (1968) viewed the adaptive potential of each individual from the perspective of the individual's emotional makeup. Erikson (1968) proposed that intellectual potential promotes but does not necessarily determine the individual's course in accomplishing a development task. For Erikson (1963, 1968), the developing child, youth, or adult can modify the developmental process through education and support. This education and support can contribute toward quick progression from one task to the next.

Erickson's (1963, 1968) framework can be applied to the situation under investigation by applying Erickson's (1963,



1968) definitions of developmental stages and the processes of task accomplishment to the effects of parenting by adolescent and post-adolescents. The completion of developmental tasks were considered in relationship to adolescent and post-adolescent pregnancy and their effects on the outcomes for cognitive, social, and emotional development.

#### Assumptions

Assumptions for this study are derived from Erikson's (1963, 1968) theory of psychosocial development as follows:

1. Development is a continuous process with distinct stages characterized by achievement of goals (Erikson, 1963, 1968).
2. Completion of each stage of development depends upon achievement of tasks inherent in previous stages (Erikson, 1963, 1968).
3. Increased age contributes to increased maternal achievement of developmental tasks which leads to better parenting (Erickson, 1963, 1968).
4. Biologic, cultural, and social factors contribute to the developmental process (Erikson, 1963, 1968).
5. Maternal-child interaction provides for mutual stimulation and facilitates the progression through the

developmental stages of the child (Erikson, 1963, 1968).

6. Environmental factors, such as primary caretaker, living arrangements, age and educational attainment of parents, affect the psychosocial development of the child (Erikson, 1963).

### Hypotheses

The following hypotheses were investigated in this study:

- H<sub>1</sub>: The level of school readiness of children born to Hispanic post-adolescent mothers will be higher than the level of school readiness of children born to Hispanic adolescent mothers.
- H<sub>2</sub>: The level of school readiness of children born to older Hispanic adolescent mothers will be higher than the level of school readiness of children born to younger Hispanic adolescent mothers.
- H<sub>3</sub>: The level of school readiness of children born to older Hispanic post-adolescent mothers will be higher than the level of school readiness of children born to younger Hispanic post-adolescent mothers.
- H<sub>4</sub>: The quality of home environment of children born to Hispanic post-adolescent mothers will be higher

than the quality of home environment of children born to Hispanic adolescent mothers.

- H<sub>5</sub>: The quality of home environment and the level of school readiness of the children born to both Hispanic adolescent and post-adolescent mothers will be positively related.
- H<sub>6</sub>: There will be an inverse relationship between chronological age and school readiness age in children born to Hispanic adolescent mothers and to children born to Hispanic post-adolescent mothers.
- H<sub>7</sub>: There will be a significant difference in the level of school readiness between children of Hispanic adolescent and post-adolescent mothers according to differences in income level, primary caretaker, educational attainment of the mother and primary caretaker, those living in the home with the child, marital status of the mother, gender of the child, attendance of the child in day care, and/or formal preschool experience of the child.
- H<sub>8</sub>: There will be a significant difference in quality of home environment between children of Hispanic adolescent and post-adolescent mothers according to differences in income level, primary caretaker,

educational attainment of the mother and primary caretaker, those living in the home with the child, marital status of the mother, gender of the child, attendance of the child in day care, and/or formal preschool experience of the child.

#### Definition of Terms

Key terms to be used in this study are defined as follows:

1. Adolescent mothers: A mother who is in the period of physical and psychological development from the onset of puberty to maturity called adolescence and/or teenage years; for the purposes of this study, those mothers between 12 to 19 years of age when their children were born and those participating in this study. Adolescent mothers are further delineated as follows:
  - a. Younger adolescent mother: a mother who was 12 to 15 years of age at the time of the birth of her child.
  - b. Older adolescent mother: a mother who was 16 to 19 years of age at the time of the birth of her child.
2. Hispanic mother: any woman of Hispanic origin who conceived, gave birth to, and is living with her child.

3. Post-adolescent mother: a mother who has progressed through her teenage years; for the purposes of this study, a mother who was 20 to 45 years of age at the time of the birth of her child participating in this study. Post-adolescent mothers are further delineated as follows:
  - a. Younger post-adolescent mother: a mother who was 20 to 29 years of age at the time of the birth of her child.
  - b. Older post-adolescent mother: a mother who was 30 to 45 years of age at the time of the birth of her child.
4. Quality of home environment: social, emotional, and cognitive support available to the young child in the home; variables such as mother/child and father/child interactions, the emotional climate within the home, the physical home environment, and discipline techniques used in the home. In this study, adequacy of the quality of home environment will be measured by the total raw score obtained by subjects on the Home Screening Questionnaire (3-6 years of age form). Scores below the 50th percentile are considered low scores. A total score of 41 or below constitutes a "suspect" screening result of the environment; while a

total score of 42 or above constitutes a "nonsuspect" screening result.

5. School readiness: cognitive, psychological, and social maturation of the child. In this study, school readiness will be measured by the total raw score obtained by subjects on the ABC Inventory. The Raw Score-Readiness Age Table will be used to convert scores to readiness age which varies from a low of 3 years 6 months (raw score of 25) and progresses on a monthly basis to a ceiling of 6 years 7 months (raw score of 122).

#### Limitations

Findings from the study will be limited by the age and ethnicity of subjects and may not be generalized beyond the sample. The sample will consist of children from 4 years 6 months to 6 years 6 months of age and who were born to and are living presently with Hispanic mothers between the ages of 12 and 45. Only those children of Hispanic mothers who agree to participate will be included in this investigation. In addition, the children must be healthy and must have had no birth trauma or prematurity at the time of birth.

A major limitation inherent in the design of this study was a nonprobability convenience sampling technique. This

sampling technique limits generalizability of the results beyond the study group (Roscoe, 1975).

### Summary

It is unclear whether children of adolescent mothers experience more developmental problems than children of post-adolescent mothers. School readiness is a form of evaluating cognitive, social, and emotional development and evaluation of the achievements of children. However, developmental information on children of adolescent mothers has been limited to black and/or Caucasian children and mothers. Therefore, to determine the existence of differences in another ethnic culture, the level of school readiness and quality of home environment will be compared between children born to Hispanic adolescent mothers and children born to Hispanic post-adolescent mothers. Erikson's (1963) theory of psychosocial development will be used as the theoretical framework for this study.

## CHAPTER 2

### REVIEW OF LITERATURE

Pertinent literature was reviewed to determine what, if any, information was available regarding the effects of maternal age and quality of home environment on emotional, cognitive, and social development of children born to pre- and post-adolescent Hispanic mothers. For discussion purposes, the available literature was divided into several categories: (a) adolescence as a developmental stage, (b) adolescent pregnancy, (c) adolescent mothers and their children, (d) relationship of the home environment in the development of children, (e) measuring the home environment, and (f) the significance of school readiness and school readiness measurements.

#### Adolescence as a Developmental Stage

According to *Webster* (1989), adolescence means the time between puberty and maturity. This time is a period of growth, change, transition, and discovery (*Gallatin*, 1976). Dramatic physical and psychological changes occur during adolescence. Certain aspects of this development stimulate early sexual activity and increase the risk of early pregnancy.



### Physical Growth and Development

During adolescence, the reproductive system shows dramatic growth when compared to other organ systems (Tanner, 1962). Adolescents reach reproductive maturity at an earlier age than did their counterparts at the turn of the century. The average age of menarche is 12.8 to 13.2 years with a variation of 10 to 16 years (Orr, Brach & Ingersoll, 1988). This age is paralleled by earlier reproductive development in boys as well as girls. This accelerated puberty in both genders places children at a risk for earlier sexual activity and its consequences.

There is a universal agreement in the literature that early pubertal development, such as early age of menarche for girls and level of pubertal development for boys, is associated with early initiation of sexual activity. The level of pubertal development and sexual activity has been linked to biological changes and to social pressures. Biological changes cause increases in hormones during puberty which, in turn, cause increases in sexual motivation and sex drive (Billy & Udry, 1985a). Social pressures result from the development of secondary sex characteristics at puberty, including breast and hair growth. The social meaning attributed to these changes, such as physical attractiveness, signals that the individual has matured and is ready for sex (Hofferth, Kahn, & Baldwin, 1987).

Although researchers (Billy & Udry, 1985a; 1985b; Udry, Billy, Morris & Raj, 1985; Udry, Talbert & Morris, 1986; Westney, Jenkins & Benjamin, 1983; Zabin & Hirsch, 1987; Zelnik & Kantner, 1980a) stated there is a strong relationship between pubertal development, hormonal levels, and sexual activity, the type of activity is socially determined. Social factors that intervene with maturational factors become important in determining if and how males and females will participate in sexual activity. These social factors are culture, religion, ethnicity, school, media, and family support systems.

#### Psychological Growth and Development

Many psychosocial changes occur during adolescence. These changes include establishing an adult identity, establishing individuality, separating from the family, developing operational thinking, acquiring a skill to allow for financial independence, developing a sexual identity, forming a stable self-identity, and planning for the future (Conger & Peterson, 1984; Fine, 1973; Kimmel & Werner, 1985).

Adolescence is a time of experimental behavior as individuals transcend from teenagers to adults (Conger & Peterson, 1984; Fine, 1973; Kimmel & Werner, 1985). This behavioral experimentation helps adolescents to progress in their psychosocial development. The trials and errors

assist them to learn and master the tasks that will help them perform in the adult world. Sexual activity and testing out individuality are part of this experimentation. This sexual activity may be the result of sexual drives, sexual self-identity, and peer pressure (Billy & Udry, 1985c). However, adolescents' cognitive development has not matured enough to allow them to comprehend the consequences of their behavioral experimentation, particularly in the area of sex and its consequences. Anticipation of the consequences of sexual behavior is required by adolescents before they can understand the potential consequences of pregnancy to sexual activity (Elkind, 1974).

Usually, the teenager has not reached formal operational thinking and thus is unable to consider potentialities over actualities (Elkind, 1974). Until this level of reasoning is mastered, sexually active teenagers are at risk for untimely and unplanned pregnancies because they lack the ability to think ahead and to use contraception.

In describing cognitive development, the adolescent is moving from concrete operations to formal operations (Piaget & Inhelder, 1969). Objective reality is the basis for intellectual reasoning and marks the distinguishing characteristic from concrete to formal operations (Piaget & Inhelder, 1969). Concrete thought is that which is directly

related to manipulation of objects and the logical analysis of actual problems. Formal thought is the ability to think abstractly by forming hypotheses and being able to deductively reason. According to Piaget & Inhelder (1969), this thinking is the final form of thought and implies a shift in time orientation from the present to the future.

Elkind (1967) stated that throughout cognitive development there are progressive forms of egocentrism. In adolescent egocentrism, there is failure to differentiate one's own thoughts from those of others and the projection of one's own ideas onto others. In formal operations, differentiation of one's own thoughts from another's thoughts have been firmly established. Therefore, individuals are able to consider others' feelings before their own. Individuals who have attained higher levels of cognitive development would give consideration to what effects early parenthood would have on an unborn child.

In addition, egocentrism for the adolescent causes an exaggerated self-consciousness (Elkind, 1974) which may cause youths to overestimate other people's awareness of and reaction to their behavior. This egocentrism produces guilt and prevents adolescents from using contraceptives. The same guilt feelings often prevent adolescents from continuing to use protection during the sexual act, which may result in pregnancy. The belief system of adolescents

results in the thinking that pregnancy occurs to others and that "I am immortal and invincible".

The work of Piaget & Inhelder (1969) and Elkind (1974) has shown that physical and psychological development may not occur at the same time in individuals. A combination of early sexual development and delayed psychosocial and/or cognitive development may result in pregnancy before adolescents are fully aware of the problems associated with early and unintended pregnancy.

Erikson (1968) stated that the adolescent development and the formation of a healthy psychosocial identity are the results of significant social and interpersonal experiences. He added that through role experimentation and peer group involvement, the adolescent is able to form work-related, recreational, and social roles without having the responsibilities of an adult. This phase is important in the development of a psychological identity. The maturity that comes from a positive psychosocial identity helps in attaining the capacity for mature sexual relationships and intimacy, as well as the readiness for parenthood.

In addition, the adolescent needs to develop moral judgment. According to Kohlberg (1969), the adolescent's moral judgment results in the appreciation of the overall needs of society versus those dealing with what is good for

them at the moment. Thinking along these lines would result in a delay of pregnancy.

### Adolescent Pregnancy

Teenagers who get pregnant come from all socioeconomic classes and from both public and private schools. All races, all faiths, and all parts of the country--rural and urban--are represented. Generally, the mother and father have known each other for more than a year before the sexual relationship starts and they are usually both teenagers about the same age (Zelnick & Kantner, 1980b). The partners come from the same socioeconomic background and are in the same grade level. Pressure comes from either party to initiate sexual activity in a relationship that they consider to be serious. Intercourse takes place in the home of one or the other (Zelnick & Kantner, 1980b). In 1982, of those teenagers who had ever had sex, 18% had not had sex in three months; 16% had it once a month; 25% reported two to three times per month; 21% had sexual relations once a week; 16% reported a frequency of more than twice a week; and 3% stated that they engaged in daily sexual relations. The more serious the relationship, the more frequent the sexual activity (Zelnick, Kantner & Ford, 1981). Barrett and Robinson (1986) found that adolescent fathers were usually caring, wanted to maintain the relationship with the mother,

and wanted to be responsible for the child. Lerman (1985) reported that there are large racial differences in the level and pattern of young fathers assuming responsibility for their children. Lerman (1985) reported that among 22-year-olds, over 25% of young black men, 3% of white, and 9% of young Hispanics were absent fathers at the time of delivery.

Investigators (Gordon, 1974; Guttmacher, 1981; Lincoln, 1978; Ross, 1978) have shown that teenage pregnancy has become a major problem in American society. Despite availability of contraceptives and services, adolescents have continued to become pregnant. Subsequently, many pregnancies now are being designated as intentional (Zelnick & Kantner, 1978). First, while the number of teenagers that became pregnant rose, the percentage of sexually active teenagers who reported using contraception also rose to 7 in 10 in 1979 (Guttmacher, 1981). Secondly, instruction in sex education and family life education have helped young people select and use contraceptive methods (Riechelt & Werley, 1975). Other studies (Dvelkovich, 1975; Brown, Liberman & Miller, 1973; Finkel & Finkel, 1975) have shown that some adolescents with this sex and family life education do not apply or use what they have learned. Thirdly, many adolescents educated in sex and family life were no less likely to prevent pregnancy than those less educated.

Subsequently, many pregnancies are now being designated as intentional (Zelnick & Kantner, 1978). Therefore, the issue being raised is why teenagers who have access to sex education, contraceptives and medical services intentionally get pregnant.

Many attempts at choosing single predictors of adolescent pregnancy have proven to be inadequate. Pangarine (1980) noted that reasons for intentional pregnancies by adolescents were (1) depression, (2) poor family and peer relationships, (3) poor school performance, (4) recent loss of a loved one, (5) behavior resulting from interpersonal conflicts, especially with parents, (6) fear of abandonment by a boyfriend, and (7) reduced family sanctions against pregnancy.

Rosenstock (1981) formulated eight psychodynamic patterns describing teenagers at a high risk for pregnancy. When such teenagers were described by two or more of the eight patterns, the investigator predicted that the adolescent would become pregnant within one year. The patterns were failure experiences, stymied aggression, rites of passage proclamation, parental complicity, guaranteed spouse, perceived love deprivation, need for parental acceptance, and escape from one's own personal problems. Continued failure in school and lack of gratifying



relationships seemed to be the most common reasons for adolescents becoming pregnant.

In Lieberman's sample (1980), adolescent pregnancy was the major reason for girls leaving school. About 50% of school-age parents did not graduate from school. Only 4 in 10 girls under 15 years of age finished the eighth grade, and 9 of 10 never finished high school. Eight of every 10 girls under 17 never completed high school (Morrison & Jensen, 1982). These girls lacked skills that could help them enter successfully into the job market.

Poor consequences for children born to adolescent mothers have also been associated with other psychosocial demographic variables. Becoming pregnant disrupts the education of the teenager, which has a serious impact on subsequent vocation and income. The rate for dropping out of school is 1.4 times greater for the adolescent mother than for the general teenage population (Moore & Hofferth, 1978). Lower educational attainment results in lower income than those who delay pregnancy. Not only is school disrupted, but vocational skills are difficult to acquire and the adolescent mother's new responsibility makes it difficult for the teenage parent to find employment.

In addition, Jaffe and Dryfoos (1980) reported adverse effects such as health, economic, social, and emotional outcomes that necessitate attention to prevention of

adolescent pregnancies. Health consequences of adolescent pregnancy occur in both mother and child. The body of the teenager is not sufficiently mature to withstand the stress of childbearing and birth. Mothers under 16 years are at a greater risk for death, toxemia, anemia, nutritional deficiencies, and prolonged labor than women over 20 years (Bonham & Placek, 1978; Guttmacher, 1981; Menken, 1972). Babies born to teenagers have lower intelligent quotients due to poor nutrition and lack of prenatal care. Prematurity, low birthweight, still births, and retardation of infants are also problems faced by the adolescent mother. In addition, it was noted that adolescent parents have a greater tendency to abuse or neglect their infants.

The quality of maternal care provided to children is not necessarily dependent on the age of the mother but the family structure. Teenage mothers living in the home of the grandmother provide a more nurturant atmosphere (Furstenberg, et al., 1987).

It has been noted that children of adolescent mothers who are not working had lower scores on pre-school inventories than mothers who worked outside the home and shared the responsibility of caretaker with another adult. The influence of multiple caretakers seems to influence cognitive development (Card, 1978). In addition, Card (1978) found that for the children of adolescent parents,

the presence of a second parent in the home, even a step-parent, is associated with higher cognitive development in the child. The presence of the father directly and indirectly influences the infant's development (Parke, Power & Gottman, 1979). Direct influences involve those instances where the father influences his infant's social or cognitive development through direct interactions between father and infant. Indirect influences are those where the father influences infant development through his effects on another person through social-emotional, physical, or financial support (Parke, 1979; Parke et al., 1979).

The age of the mother is still correlated to the quality of care provided the child. Young mothers provide less verbal interaction and a high amount of physical interaction with their infants. Such stimulation can lead to deficiencies in motor and mental development in the child (McLaughlin, Sandler, Sherod, Vietze, & O'Connor, 1979). According to David and Baldwin (1979), girls score higher on cognitive development than boys.

Adolescent mothers encounter negative social pressures and often experience alienation from family members (Morrison & Jensen, 1982). Isolation from their friends occurs as time spent with their infants increases. Dating becomes difficult and/or marriage failure occurs. One in five teen marriages fails; one in three dissolves within 2

years; and three in five of these couples are separated or divorced within 6 years (Morrison & Jensen, 1982).

### Adolescent Mothers and Their Children

Early parenthood, like adolescence, is a time of developmental crisis. Sadler and Catrone (1983) stated that the developmental tasks of adolescence affect and may conflict with the tasks of early parenthood. Transition, stress, potential growth, and increased self-understanding marked the tasks of adolescence and early parenthood. If these two were superimposed, a unique situation would be created for the teenage mother.

Clapp and Raab (1978), Hofferth and Moore (1979), Guttmacher (1981), and Lawrence and Merritt (1981) reported physical and psychosocial handicaps associated with adolescent parenting. Also, adolescent parenting is impacting larger numbers of children due to the increased number of teenage mothers choosing to keep their infants (Guttmacher, 1981).

Oppel and Royston (1971) studied children between 6 and 8 years old whose mothers were 17 years of age and younger and compared them with children whose mothers were 18 years and older. The younger group of children were reported to be intellectually, physically, and socially handicapped. However, Rothenberg and Varga (1981) compared children at 3

years of age born to teenagers 13-19 years of age with children born to 20- to 40-year-old women. They found conflicting results: the teenagers' children developmentally surpassed the older women's children. Roosa (1982) failed to find physiologic differences in children of 3 months of age related to childbearing between 15-19 year olds and 20-32 year olds. However, Roosa noted that, among older mothers, there were more optimal mother-infant interactions, better home environments, and higher socioeconomic status present. The children of younger mothers rated higher on development than did those of the older mothers when socioeconomic status was controlled. Finkelstein, Finkelstein, Christie, Roden and Shelton (1982) reported that there was no difference in the physical growth of children born to adolescent mothers when compared to older mothers. According to Finkelstein et al. (1982), as well as Baldwin and Cain (1980), socioeconomic status contributes more to the problems of parenting than do other factors.

Mercer et al. (1984) investigated the differences in maternal role attainment behaviors for three age groups (15-19, 20-29, 30-42 years) of 294 first-time mothers over a 1 year period. All infants were born at 37 or greater weeks of gestation. The investigators found that, at birth, there were no group differences in the infants' birth weight or

Apgar scores. These results agree with Scholl et al. (1984) and Rothenberg and Varga (1981). However, at 1 month of age, the teenagers' (15-19) infants had poorer health than did infants in Groups II (20-29) and III (30-42). Although the teenagers' infants weighed less at birth than did the infants of Groups II and III, at 1 year of age, infants in Group I had gained more weight than infants in the other two groups.

Mercer et al. (1984) found that at 1 and 4 months, the adolescents' infants had higher motor and social development scores than infants of older mothers. At 1 year, Group I (15-19) infants had motor and social development that was decreased. However, adolescent mothers did report less involvement in infant stimulation than was reported by older mothers.

Another finding reported by Mercer et al. (1984) was that 57% of Group I mothers described their mothers (the infants' grandmothers) as supportive and helpful. This help and support declined at 8 months (44%) and 12 months (35%). Bornstein and Ruddy (1982) documented that maternal stimulation at 4 months influenced the infant's cognitive development. Since the adolescent mothers were less involved in infant stimulation, the grandmothers may have helped to bridge the gap prior to 4 months contributing to greater advance of adolescent's infants in motor and social

skills at 4 months. The decline in grandparent support may be the reason for the decline in motor and social skills at 1 year.

According to Sander (1962), the period between the child's sixth and ninth month of age requires that the mother be aware of how to read and respond to her infant's cues in directed activity. It is during this phase of the infant's development that the adolescent mother needs help and support from family resources. However, the resources may create stress for the mother because, as she attempts to gain greater independence from her mother, the needs of her child are also increasing. Thus, the adolescent mother has to depend on her mother to a greater degree or else neglect her child's needs due to a lack of knowing how to care for the infant if the mother is not present to help her with the child.

#### Relationship of the Home Environment in the

#### Development of Children

Children at biological risk are those who experience prematurity, hypoxia, and low Apgar scores (Lee & Corpuz, 1988; Tjossem, 1976). It is generally accepted that problems in the perinatal period may impact developmental outcomes, despite conflicts regarding the importance of these problems. The effects of these risk factors are influenced by the environment, as reflected by socioeconomic

measures. The biological effect seems to be minimal when compared to the effect of the socioeconomic status.

Drillien (1964) studied 595 premature infants born in England during the 1950s. At age 4 years, the Developmental Quotient (DQ) was administered. It was reported that the DQ differed within each weight group for each social class, but the differences were more significant for the smallest infants born to the lowest social class. In another study, Francis-Williams and Davies (1974) found that 100 children who weighed less than 1,500 grams at birth had full scale intelligence quotients (IQs) when tested between 4 and 12 years of age. No correlations were found between birth weight, gestational age, or neonatal illness and IQ. However, IQ differences between social classes were significant. The highest social class mean IQ was 107, the middle class mean IQ was 99, and the lowest social class mean IQ was 86. According to Werner, Bierman, French, Simonian, Connor, Smith and Campbell (1968), follow-up studies of premature infants whose weight ranges were less than 2500 grams showed that IQs were not significantly correlated with prenatal complications, such as low Apgar or hypoxia.

Children who seem to be at greatest environmental risk are those who are born to families of lower socioeconomic status, parents who are emotionally disturbed, and parents



who provide an inadequate care-taking environment (Tjossem, 1976). Numerous intervention programs have shown that IQs of children in increased risk settings are improved by providing a more stimulating environment. Garber and Heber (1977) documented that the IQ of 6-year-old children born to mothers with IQs of less than 75 had a mean IQ of 111 for the experimental group who were provided with a stimulating environment and a mean IQ of 87 for the control group who received no treatment.

An accurate picture of a specific variable in a child's environment rather than an accurate picture of the socioeconomic status better identifies those children at risk. The process of measuring the home environment entails looking at objects and events that occur in the home. The events, objects, and transactions in the environment are always changing. Changes in the environment cause children's scores to fluctuate in response to changes in environmental conditions. Included in this assessment is the language spoken, availability of developmentally appropriate play materials, parental responsiveness, and the variety of experiences outside the home. Measures of the environment offer a means of identifying strengths and weakness in the environment. This identification, in turn, can be used to create intervention programs to address specific needs of the child. Some researchers divide the

environment into three major categories: the social environment, the cognitive environment, and the physical environment.

The social home environment constitutes the child's contact with other persons. The transactions are primarily social, emotional, or affective in tone or intent. According to Casey and Bradley (1982), parental responsiveness, available warmth and nurturance, parental encouragement to be independent, parental restrictions upon the child's behavior, and types of disciplines practiced create the social home environment.

Two aspects of the environment that are critical for the child's development are parental responsiveness and warmth and nurturance. According to Casey and Bradley (1982), these two factors have the greatest impact upon social, emotional, and cognitive development of the child. Casey and Bradley (1982) defined responsiveness as the recognition of a child's needs followed by the taking of appropriate action to deal with those needs. Earlier, Erikson (1968) had theorized that parental responsiveness was very important in the child's development. The work of Casey & Bradley confirmed Erikson's projections.

A second aspect of the social environment relates to parental warmth and nurturance to progressive social development (Casey & Bradley, 1982). Casey & Bradley (1982)

found a high correlation between affection and emotional atmosphere of the home in the cognitive performance of children between the ages of 13 months and 3 years of age. According to Casey and Bradley (1982), the cognitive environment includes those parental behaviors, objects, and experiences that promote intellectual growth in children. Included in these behaviors are language, sensory, and social experiences, and the parents' encouragement of intelligence and achievement.

White and Watts (1973) found that the quality and quantity of the mother's language distinguished the performance of competent from incompetent children. Modeling of intellectual behaviors and provision of opportunities for intellectual activities enhanced the mental test profile.

The variety of stimulation in the home is a part of the cognitive home environment. Yarrow, Rubenstein, and Pederson (1975) contended that children require a variety of sensory and social experiences to help them develop normally.

Another aspect of the cognitive home environment is the amount of parental encouragement children get for achievement. White and Watts (1973) found that children with parental encouragement gained in IQ as opposed to those who did not receive the encouragement. In addition,

encouraging parents spent more time with their children in activities that promoted increased competence.

The degree of independence a child is allowed constitutes another factor in the home environment. Although this factor is not considered relative to cognitive development, restricting a child and using punishment were associated with decreasing mental test profiles (Casey & Bradley, 1982).

The third major component of environmental input is the physical home environment. According to Casey and Bradley (1982), the physical environment is comprised of toys and learning materials, sensory input, and the extent to which the environment is organized. Other investigators (Bradley & Caldwell, 1976; Elardo, Bradley, & Caldwell, 1975, 1977) found a strong relationship between appropriate play material during the first 2 years of life and cognitive development in children. This cognitive enhancement occurs through toys and materials which increase the motor coordination, fine motor and eye-hand coordination, contact comfort, and emotional security. Along with appropriateness of toy and play materials, organization of experiences provides maximal benefit to the child's cognitive development.

Organization of the environment helps maximize the benefits the child receives from the environment. Parke

(1979) declared that the structure and orderliness of the home may contribute more to the cognitive development than the stimulation the child receives in the home.

### Measuring the Home Environment

A strong link has been demonstrated between home environment and development. Three different measurement processes are currently in use (Casey and Bradley, 1982): (1) home visits, (2) structured interviews and questionnaires completed by parents, and (3) rating scales or behavior observations based upon the clinician's observations of parent-child interaction during the time of clinic visit.

The most common method of measurement is the Home Observation for Measurement of the Environment (HOME) Inventory (Casey & Bradley, 1982). It is administered in the home. The information is obtained from the primary caregiver through observation and interview. The child must be present and awake. The test requires a "yes-no" format in answering the questions. It is a useful instrument for establishing strengths and weaknesses in the child's environment.

The major advantage of the HOME during a home visit is the richness and naturalness of information obtained. The fact that the information is obtained in the environment

provides an accurate picture of where the child is developing. A disadvantage of this instrument is that it is time consuming and expensive to administer in terms of personal time.

The structured interview and questionnaire is a more efficient means of assessing the home environment. Although it is a valid and reliable method of getting information on the environment, it lacks the richness and naturalness of observing the environment. A major disadvantage is that parents can provide inaccurate information and/or withhold information.

Another means of assessing the home environment is by observing the parent and the child at the clinic site. A disadvantage to this method is that it tends to be limited in scope, and other than social relations between the mother and child, the environment is not assessed. In addition, behavior observed in the clinic may not be the same behavior that is practiced in the home.

### Significance of School Readiness and School Readiness Measurements

When children are old enough to enter school, a measurement of their social and intellectual level is needed to determine if they are prepared to meet the demands placed upon them in the classroom. Therefore, numerous instruments

have been designed to objectively measure children's school readiness and their ability to succeed in classroom placement. The importance of identifying children who are not intellectually and developmentally ready to enter first grade is an important challenge of health care providers as well as public school educators.

Objective testing that predicts school readiness has traditionally been done through intelligence tests and developmental rating scales. Additionally, there are many scales that have been designed by individual facilities to measure school readiness.

Anastasia (1968) documented that individual testing was more effective than group testing. Individual testing provides a great deal of information that is not gathered when group testing is performed. In addition, individual testing provides more specific predictive information regarding school readiness. A disadvantage to individual testing is the amount of time required in conducting the exam.

Caldwell (1974) identified parameters that should be assessed during the testing for school readiness. These parameters included basic information and vocabulary; number concepts and ordination; concepts of size, motion, color, and times; social function; visual motor ability; ability to follow instructions; and level of independence. In 1974,

Caldwell identified that screening tests needed to be short, easily and individually administered.

Researchers (Drillien, Thomson & Burgoyne, 1980; Kappelmann, Rosenstein & Ganter, 1972; Siegel, 1982; Smith, Flick, Ferriss & Sellman, 1972; Weiner, Oppell & Harper, 1968) have focused on different medical and family risk factors related to academic problems, including perinatal concerns, ear problems, and the presence of family members with a learning disability. Environment and economic variables have correlated higher with school readiness than medical risk factors (Alberman, 1973; Bell, Abrahamson & McRae, 1977). Mercer and Trifiletti (1977) stated that a variety of the above place a child at risk for school readiness problems. Therefore, based on these data, Fowler and Cross (1986) undertook a study designed to evaluate and rank the importance of environmental, medical, and developmental factors in relation to school performance and to develop a screening tool to assess a pre-schooler's academic potential. The resultant work (Fowler & Cross, 1986) indicated that maternal education, family history of learning problems, child's attention span for academic activities, and developmental tasks of cognitive and visual motor skills were of relative importance in academic achievement and successful grade completion.



School success is measured by the child's ability to perform on readiness or standardized tests. In those tests, "readiness" measures cognitive behavior or academic growth. Developmental readiness for academic growth focuses upon cognitive function and potential. However, the physical, social, emotional, and language development is also considered. Being able to cope is considered more relative to school readiness than cognitive functioning (Wood et al., 1984).

Higgins (1980) stated that, if a child lacked social and emotional maturity, adjustment problems were more likely to lead to poor academic achievement. For this reason, instruments have been designed to address the easiest and most effective way of screening children at risk for academic achievement problems.

In 1980, Levine, Oberklaid, Ferb, Hanson, Palfrey and Aufseeser reinforced the practice of assessing that school readiness was important and that it helped to determine if the child was physically, emotionally, and intellectually ready to handle a structured school environment. Levine et al. (1980) stated that there are tools for assessment of school readiness, but, because they require an hour to administer, are often not used.

Rogers and Rogers (1972, 1975) stated that the learning problems which become evident in elementary grades have

their origin in preschool years. Anastasia (1968) established that if the knowledge and skills to grasp normal school instruction in the early years is not adequate, learning problems would arise from this insufficient school readiness. For this reason, Rogers and Rogers (1972, 1975) developed one of the first easy to administer school readiness tests, the PRESS, an acronym for Preschool Readiness Experimental Screening Scale. Testing was administered to 161 white middle-class children between the ages of 4 years 9 months and 5 years 11 months. After some children were eliminated, 75 was the final normative sample. Rogers and Rogers (1972, 1975) postulated that a short and easy to administer school readiness test would identify children in the elementary grades who were at risk for delay in learning problems.

Then Rogers and Rogers (1972, 1975) tested these children with the ABC Inventory and the Slosson Intelligence Test (SIT) along with two psychological tests. Using a Pearson Product-Moment Correlation coefficient, the correlation for the PRESS and ABC was  $r = .72$ . This correlation was considered high enough to determine school readiness. The correlation between the Slosson IQ and the PRESS was  $r = .49$ . This correlation reflects IQ, but it is not high enough to justify its use as a measure of

intelligence. It was determined that the ABC inventory could identify children not ready for school.

Dunleavy, Hansen, Szasz and Baade (1981) determined that the Draw-A-Person test was useful in determining school readiness. The authors found their tool to be a valid measure of cognitive development in preschool and primary school age children. The basis for reliability of the Draw-A-Person test is that a child's inability to copy a figure signifies the inability to conceptualize the picture. The authors of the ABC inventory incorporated this concept into their instrument by requiring the child to draw a person.

According to Levine et al. (1980), a major life transition is school entry. Self-esteem, academic skill, learning incentive, and social adjustments are important results of its accomplishment. School readiness needs should be assessed and factors isolated that lead to its success or failure. They further added that educational services, anticipatory advice and the child's style of learning and coping can be helped through the identification of these factors.

### Summary

Adolescence is a time of change, challenge, and accomplishments. Many physical and psychological changes occur naturally. Certain risks are present that may lead to

pregnancy. However, pregnancy presents a major interference in the developmental process of the adolescent and disrupts psychological maturation of the individual. In addition to the effects of pregnancy upon the adolescent mother, there are consequences to children and society of adolescent pregnancy.

Because adolescence is not the ideal time for pregnancy for the mother and child, society has exhibited concern for the outcome, not only for the mother, but for the child. The environment of a child with an adolescent parent has been identified as an important component of the psychosocial and developmental outcome for the child.

In addition, school readiness has been determined to be a valid measure of cognitive, psychological, and social maturation of the child. Valid measurement tools of school readiness have been identified and are continuously being tested.

Further, scarcity of information exists regarding developmental outcomes of children born to Hispanic adolescent women. For this reason, the age of the mother will be a determinant of whether a child of an Hispanic adolescent parent has an optimal opportunity for school readiness as compared to children of white and black parentage.

## CHAPTER 3

### PROCEDURE FOR COLLECTION AND TREATMENT OF DATA

This nonexperimental, explanatory four-group design study was conducted to investigate the level of school readiness and quality of home environment of children of younger and older Hispanic adolescent mothers as compared to the school readiness scores of children of younger and older Hispanic post-adolescent mothers. Subjects were assigned to one of four groups according to maternal age to allow evaluation of the relationship between level of school readiness, quality of home environment, and maternal age. The dependent variables were level of school readiness and quality of home environment of the children as measured by the ABC Inventory and the Home Screening Questionnaire, respectively. The independent variable was maternal age. Extraneous variables, as collected in the Family Information Questionnaire (Plumb, 1988), included income level, primary caretaker, educational attainment of the mother and primary caretaker, living arrangements, marital status of mother, gender of the child, attendance of the child in day care, and/or formal preschool experience of the child.

### Setting

The setting for this study was a community health-based pediatric clinic. This setting provides service to adolescent and post-adolescent parents and their children.

The community health-based pediatric clinic serves approximately 300 mothers per month. The pediatric clinic is located in a community health facility situated in a rural community in the southwestern United States. Adolescent parents attend this center for the care of their well and/or sick child. This center is located in a community health department and has a predominantly Hispanic clientele. The room in the clinic where subjects were tested is large, lighted, and furnished with a table and two chairs. The room allowed for private sessions between the investigator and the subjects. Administration of the instrument to the mother and the child occurred after the nurses's or caseworker's visit. Subjects unable to complete the instruments, due to a lack of interest or anxiety, were not included in the study.

### Population and Sample

The population included those children who are clients of the selected pediatric clinics and who met the sample selection criteria. To be invited to participate in this

study, the child was required to meet the following requirements:

1. Be born of an Hispanic mother.
2. Be between 4 years 6 months and 6 years 6 months of age at time of data collection.
3. Have a mother who was aged 12 to 45 years at the time of the child's birth.
4. Have no history of birth trauma or prematurity.
5. Have no acute or chronic illnesses.

A nonprobability convenience sampling technique was used to select the subjects. The names of clients that met the criteria were provided to the investigator by the clinic personnel. All potential subjects were approached individually by the investigator who introduced herself, gave a brief description of the study, discussed the informed consent, and invited the client to participate in the study. This procedure was repeated until there was a minimum of 160 subjects: 40 in each of the two adolescent groups and 40 in each of the two post-adolescent groups. The power of the test of  $H_0$  increases as the sample size,  $N$ , increases (Glass & Hopkins, 1984).

#### Protection of Human Subjects

The following guidelines were followed to protect the rights of the subjects. The criteria of the Human Subjects

Review Committee of Texas Woman's University was followed. Agency approval was obtained from the community health facility and the pediatricians (Appendix A). Informed consents were obtained from the mother/guardian and child prior to data collection (Appendix B). The informed consent contained a verbal and written explanation in Spanish or English. A bilingual investigator explained the study and its purpose and the duration of participation. In addition, the consent form included the following:

1. A description of any discomforts, risks, benefits, and how the risks and discomforts would be handled.
2. A disclosure that there were no alternative procedures.
3. A statement ensuring confidentiality since results would be reported as group data, to both the physician and/or clinic personnel, with no identification of individuals who participated or of clinic sites.
4. Written assurance that participation in the study was voluntary. Mothers and/or children could refuse to participate or withdraw from the study at any time and the clinic services would not be affected.
5. A statement that no information would be shared with the agency unless the mother requested the information to be shared.
6. A statement that participants would not be subjected to major inconveniences.



7. An explanation of whom to contact for answers to questions regarding the research and subject's rights.

### Instruments

Three instruments were used to collect data. These instruments include the Family Information Questionnaire (see Appendix C), the ABC Inventory (see Appendix D) to determine kindergarten and school readiness, and the Home Screening Questionnaire (see Appendix E).

#### Family Information Questionnaire

The Family Information Questionnaire (FIQ) was developed by Plumb (1988) to collect descriptive data on demographic variables. The original 31-item instrument was slightly modified for this study. Item #30. (What school will the child attend in September?) was omitted and four questions, #2, #3, #4, and #34, specific to this study were added.

The instrument was used to separate those children with adolescent mothers and those children with post-adolescent mothers by asking the birth date of the mother. Other demographic information included age of the child, ethnicity of the mother, birth trauma or prematurity of the child, and acute or chronic illness(es) of the child. These questions verified criteria for inclusion in the study. In addition, the instrument was used to obtain information on extraneous

variables of income level, primary caretaker, educational attainment of the mother, living arrangements, marital status of the mother, gender of the child, attendance of the child in day care, and/or formal preschool experiences of the child. Other demographic information, such as number of siblings, presence or absence of playmates, and information about the child's father, was used to further describe the sample.

#### The ABC Inventory

The ABC Inventory (ABCI) (Adair & Blesch, 1965) (see Appendix D), used to determine the level of school readiness, is divided into four parts. In Section 1, the child is asked to draw a man. The second section included questions regarding the characteristics of objects. In the third section, the child responded to questions about general topics. Lastly, Section 4 asked the child to perform four simple tasks:

1. Count to four.
2. Fold a triangle once and then fold again after observing the investigator first fold the triangle.
3. Repeat four digits after the investigator says the number.
4. Copy a square.

The total possible raw score of the ABCI is 122. Raw scores were converted to "readiness ages" by using a Raw

Score-Readiness Age Table. The lowest readiness age on the table is 3 years and 6 months or a raw score of 25. The readiness ages progress on a monthly basis to a ceiling of 6 years and 7 months comparable to a raw score of 122.

The original purpose of the ABCI was to identify children who were immature for standard school programs. More educators are examining school readiness at admission to avoid some of the problems among children in the early academic years. When growth and learning skills are comparable, school can be a rewarding experience for children. Entry into school based upon chronological age ignores the concept of individual differences in learning and many children are defeated at the onset of their education. Differences in abilities are present even though they are subtle. Daily demands can exceed the maturity of the child and initiate negative life experiences which can predispose the child to later learning and behavioral problems. The child may rebel and reject all educative efforts because of vagueness, frustration, and confusion experienced in the classroom (Adair & Blesch, 1965).

Adair and Blesch (1965) determined the validity for the ABCI by comparing "pass-fail" features between children in the upper and lower halves of the score distribution. They further determined pass/fail by the successful completion of the first year of school. Out of a total of 166 in the

standardization group, 83 obtained scores 68 and above while 83 scored below 68. Forty-three children failed their first year of school. Of those failing, 37, or 86%, were identified as failing. On the other hand, 77, or 63%, of those who passed scored above 68 (tetrachoric correlation of .70) (Adair & Blesch, 1965).

According to Adair and Blesch (1965), by comparing scores for children of the same age group who were enrolled in the same school districts 2 years apart, there were no significant differences between the means of the two groups. In Plumb's (1988) study, internal consistency, using a coefficient alpha, was determined for each of the four sections of the test as well as for the total score. The total test score provided a reliability of  $\underline{r} = .87$  ( $\underline{N} = 22$ ). The total score was used to indicate school readiness because the individual subsections were not adequate for assessing school readiness as revealed in the pilot study. In the present study, a similar procedure was conducted to establish reliability.

#### Home Screening Questionnaire

The Home Screening Questionnaire (HSQ) (Coons, Gay, Fandal, Ker, & Frankenburg, 1981) (see Appendix E), used to measure the quality of home environment, was developed for use by health personnel and educators interested in promoting child development. It is a screening instrument

of factors existing within a child's home environment that were found to be related to a child's growth and development. Items on the HSQ were selected from a more lengthy home environment assessment developed by Bradley and Caldwell (1976), the Home Observation for Measurement of the Environment (HOME) Inventory. The HSQ included items which measured the important quantitative and qualitative home environment variables measured on the HOME Inventory. Unlike the HOME Inventory, the HSQ is parent-answered and does not require a visit to the child's home.

The parent-answered HSQ is written at a third and fourth grade level based on the Fog Index (Coons et al., 1981) and takes 15 to 20 minutes to complete. The HSQ consists of multiple-choice, fill-in-the-blank, and yes/no questions, and includes a checklist of toys available in the home. Two forms of the test were developed. One form is for children 0-3 years of age and the other is for children 3-6 years of age. The 3-6 years of age form was used for this study.

The total possible score on the HSQ, Children 3-6 Years Form, is 56 (Coons et al., 1981). A total score of 41 or below constitutes a "suspect" screening result of the environment, which indicates that, in the best interest of the child, there should be a more thorough assessment of the quality of the home environment. A total score of 42 or

above constitutes a "nonsuspect" screening result, or a level of quality of the environment which does not necessitate further assessment (Coons et al., 1981).

The reliability of the HSQ was determined by the Kuder-Richardson Formula 20 for internal consistency. The internal consistency coefficient for the 3-6 years age group was  $r = .80$ . To calculate test-retest reliability, the 3-6 years group was asked to complete a second HSQ 1 to 4 months following the first administration. Test-retest reliability coefficient for this age group was  $r = .86$  (Coons et al., 1981).

Analyses for the validity of the HSQ were done to compare the HSQ to the parent scale, the HOME Inventory. The HSQ scores identified a majority of low HOME scores while keeping the rate of over referral (or co-negative) errors low. "Low" HOME scores were defined as those scores falling within the lower 50th percentile. This percentile was selected because it approximates the rate of school problems experienced by children residing in disadvantaged environments (Coons et al., 1981).

In the analyses reported by Coons et al. (1981), the percentage of agreement on the test accuracy calculation for the 3-6 years old was 71% for the HSQ. The co-positivity, or percentage of suspect scores, as defined by the HOME Inventory was 81.2% and 86.3%, respectively, for the HOME

and the HSQ. There was a co-negativity of 65.7% for the HOME and 55.7% for the HSQ. The predictive values of the positive results were 77.3% and 68.2%, respectively, for the HOME and the HSQ. According to Coons et al. (1981), a screening instrument is more effective if it has a high co-positivity than if it has a high co-negativity. Coons et al. reported an over referral rate of 21% and an under referral rate of 7% on the HSQ. The total percent that would be referred (i.e., low HSQ scores) was 66%. The percentages of referrals are reasonable, based on the high rate of after school problems in these populations (approximately 50%). According to Coons et al. (1981), the results suggested that the HSQ identifies a large proportion of children whose HOME scores would be low and that it could be useful in identifying children whose home environments should be carefully evaluated.

The HSQ is designed to screen home environments (Coons et al., 1981). Therefore, it is important that intervention and treatment programs be available if the follow-up evaluation indicates that the child's environment may depress the child's development.

#### Data Collection

Collection of data began after approval was obtained from the Human Subject's Review Committee of Texas Woman's

University and the agencies involved. Informed consents were obtained from the mothers/guardians and children. The Family Information Questionnaire, the ABC Inventory, and the Home Screening Questionnaire were utilized to collect data for this investigation.

Prospective participants were approached by the investigator at the respective agencies during clinic hours. The investigator invited the Hispanic mothers to participate in the study and, if they were agreeable, the project was explained. Measures taken to ensure the protection of human rights was also explained. If the Hispanic mothers agreed to participate, signatures of both the mothers and their 4- to 6-year-old children were obtained at that time. If the child was not able to sign his name, an "X" was obtained.

The mother completed the Family Information Questionnaire and the Home Screening Questionnaire while at the clinic. While the mother was completing her instruments, the investigator administered the ABC Inventory to the child within sight of the mother, in a quiet environment at the clinic where distractions from other children were avoided. The investigator personally picked up all three instruments after they were completed.

#### Pilot Study

A pilot study was conducted using a convenience sample of students enrolled in two preschool facilities in a large



metropolitan area of south Texas. The children in these facilities attended the preschool on a regular basis.

The investigator attended parent meetings at the two schools and invited 60 parents and their children to participate, but only 24 agreed. The design for the pilot required that the HOME questionnaire and consent form be sent home for the parent to complete. The parents completed the HOME questionnaire with no items being omitted. Due to time constraints, it was not determined why nonparticipants did not agree to become subjects in the study.

The children were administered the ABC Inventory upon return of the consent form. The ABC Inventory was administered to each child in a small section of the classroom. Distractions by other children made it difficult to have the child's undivided attention. The children had difficulty with items on the inventory that related to conditions not seen in South Texas. In the proposed study, these items will be eliminated during data analysis but not on administration, so that reliability and validity of the instrument will not be affected. In addition, in the proposed study, the inventory will be administered to the child in a separate room where privacy can be assured.

An analysis of variance with four-group design was conducted. The findings revealed that the school readiness scores and the HOME scores of children of adolescent

Hispanic mothers were significantly different from the scores of children of post-adolescent Hispanic mothers. Therefore, results did provide a comparison of the groups and revealed that there were no significant differences in the school readiness scores according to maternal age. The findings of the pilot study did not support the literature which suggest that children of younger mothers do worse than those born to older mothers in developmental, social, and emotional skills. Thus, support for the proposed study of the relationships between level of school readiness, quality of home environment, and maternal age was further indicated by the findings in the pilot study.

#### Treatment of Data

Descriptive statistics were calculated to describe the sample. Measures of central tendency, including frequencies, percentages, means, standard deviations, and modes, were used to report demographic data. Means and standard deviations were calculated for the extraneous variables of educational attainment of the mother and primary caretaker. Modes were calculated for the extraneous variables of income level, primary caretaker, living arrangements, marital status of the mother, gender of the child, attendance of the child in day care, and formal preschool experience.

Means were calculated on the total score of the ABC Inventory. The HSQ's total score were measured in terms of means. The individual items on the HSQ were calculated by frequencies and percentages. All descriptive data were summarized in tables.

Inferential statistics were used to make inferences about the sample and to evaluate the hypotheses. The level of significance for all data analysis were  $p \leq .05$  (Munroe, Visintainer & Page, 1986). A significance level lower than the critical value indicated that a significant difference existed in the two groups studied. A significance level higher than the critical value indicated no differences between the two groups.

An analysis of variance with two primary groups and four subgroups were used to compare levels of school readiness between children of adolescent Hispanic mothers and children of Hispanic post-adolescent mothers ( $H_1$ ), children of younger Hispanic adolescent mothers and children of older Hispanic adolescent mothers ( $H_2$ ), and children of younger Hispanic post-adolescent mothers and children of older Hispanic post-adolescent mothers ( $H_3$ ). An analysis of variance was used to assess differences in the quality of home environment among the two primary groups ( $H_4$ ). A Pearson product-moment correlation coefficient was used to determine the relationship between the quality of home

environment and the level of school readiness ( $H_5$ ).

Individual items on the Home Screening Questionnaire were correlated with scores on the ABC Inventory. An analysis of variance was used to analyze the differences between extraneous variables and both the level of school readiness ( $H_6$ ) and the quality of home environment ( $H_7$ ), respectively.

## CHAPTER 4

### ANALYSIS OF DATA

In this investigation, differences in the school readiness and quality of home environment between children born to Hispanic adolescent mothers and children born to Hispanic post-adolescent mothers were examined. This chapter includes descriptions obtained through the Family Information Questionnaire about the two primary groups children of adolescent mothers and children of post-adolescent mothers. Descriptive data of the two groups were analyzed by measures of central tendency and variability. In addition, descriptive data of the four subgroups, children born to younger and older adolescent mothers and children born to younger and older post-adolescent mothers, were analyzed by measures of central tendency and variability. Inferential statistics were used to analyze each research hypothesis. Overall findings were then related to the hypotheses.

#### Description of the Sample

The sample consisted of 113 subjects who met the presented criteria; 53 (47%) were children born to adolescent mothers and 60 (53%) were children born to post-

adolescent mothers. Of the 113 subjects, 97 (86%) were from service clinics of the community health department and 16 (14%) were mothers referred by community health department subjects who also attended the service clinics, but on different days.

Maternal age at the time of the birth of the child was used to divide the group into two groups: children born to adolescent mothers and children born to post-adolescent mothers. These two groups were further divided into: children born to younger and those born to older adolescent mothers and children born to younger and those born to older post-adolescent mothers.

#### Age

The mean age of all mothers was 22.3 years and the standard deviation was 6.50 (Table 1). The range was 24 years with a low of 14 years and a high of 38 years. The largest number of mothers were within the group age of 16 (with 16 or 14.2%); 18 (with 11 or 9.7%); 19 (with 11 or 9.7%); 22 (with 9 or 8%); and 30 (with 10 or 8.8%). There were no mothers within the age group of 12 and 13 years.

The sample of 113 mothers was categorized into two groups: adolescent and post-adolescent mothers. The adolescent mothers were further categorized into younger adolescent mothers and older adolescent mothers. The adolescent mothers subgroup consisted of 27 (23.9%) children

born to younger adolescent mothers and 26 (23.0%) children born to older adolescent mothers. Of the post-adolescent mothers subgroup, there were 32 (28.3%) children born to younger post-adolescent mothers and 28 (24.8%) born to older post-adolescent mothers.

Table 1  
Frequency and Distribution of Ages (Years) of  
113 Mothers Into Four Sub Groups<sup>a</sup>

	<u>AM</u>			<u>PAM</u>				
<u>AGE</u>	<u>YAM</u> <u>n</u> %	<u>OAM</u> <u>n</u> %	<u>TOTAL</u> <u>n</u> %	<u>YPAM</u> <u>n</u> %	<u>OPAM</u> <u>n</u> %	<u>TOTAL</u> <u>n</u> %	<u>TOTAL</u> <u>SAMPLE</u> <u>n</u> %	
14	7 6.2						7 6.2	
15	4 3.5						4 3.5	
16	16 14.2		27 24.2				16 14.2	
17		4 3.5					4 3.5	
18		11 9.7					11 9.7	
19		11 9.7	26 22.9				11 9.7	
20				2 1.8			2 1.8	
21				7 6.2			7 6.2	
22				9 8.0			9 8.0	
23				3 2.7			3 2.7	
24				6 5.2			6 5.3	
25				2 1.8			2 1.8	
28				1 .9			1 .9	
29				2 1.8		32 28.4	2 1.8	
30					10 8.8		10 8.8	
31					5 4.4		5 4.4	
32					4 3.5		4 3.5	
33					2 1.8		2 1.8	
34					3 2.7		3 2.7	
36					3 2.7		3 2.7	
38					1 .9	28 24.8	1 .9	
<u>TOTAL</u>			53 47.1			60 53.2	113 100.0	

- <sup>a</sup> AM = Adolescent Mothers  
YAM = Younger Adolescent Mothers  
OAM = Older Adolescent Mothers  
PAM = Post-Adolescent Mothers  
YPAM = Younger Adolescent Mothers  
OPAM = Older Adolescent Mothers



The mean age in months of children was 64.37 months and the standard deviation was 7.99 (Table 2). The range was 24 months with a low of 54 months and a high of 78 months. The largest number of children were with the age group of 54, 60, 72 and 78 months.

Table 2  
Frequency and Percentage Distribution  
of Ages (Months) of 113 Children

<u>AGES (Months)</u>	<u>CHILDREN</u>	
	<u>n</u>	<u>%</u>
54	21	18.6
55	1	.9
56	2	1.8
57	2	1.8
58	5	4.4
59	5	4.4
60	11	9.7
61	3	2.7
62	4	3.5
63	2	1.8
64	7	6.2
65	6	5.3
66	4	3.5
68	1	.9
70	4	3.5
71	3	2.7
72	9	8.0
73	2	1.8
74	4	3.5
75	6	5.3
76	2	1.8
78	9	8.0
TOTAL	113	100.0

The mean age of fathers was 29.9 years and the standard deviation was 8.72 (Table 3). The range was 49 years with a low of 16 years and a high of 65 years.

Table 3  
Frequency and Percentage Distribution of  
Ages (Years) of 113 Fathers

<u>AGE (YEARS)</u>	<u>n</u>	<u>FATHERS</u> <u>%</u>
12 - 16	1	.9
17 - 19	3	2.7
20 - 29	51	45.0
30 - 39	33	29.4
40 - 49	7	6.3
50 - 59	1	.9
60 - 69	2	1.8
Missing	15	13.0
Total Sample	113	100.0

### Gender

The predominant gender of the children was female. The sample consisted of 47 (41.6%) males and 66 (58.4%) females (Table 4). Children born to younger adolescent mothers consisted of 12 (44.4%) males and 15 (55.6%) females and children born to older adolescent mothers consisted of 12 (46.2%) males and 14 (53.8%) females. Children born to younger post-adolescent mothers consisted of 11 (34.4%) males and 21 (65.6%) females and children of older post-adolescent mothers consisted of 12 (42.9%) males and 16 (57.1%) females.

Table 4  
Frequency and Percentage Distribution  
Of 113 Children by Gender

<u>SUBGROUP<sup>a</sup></u>	<u>MALES</u>		<u>FEMALES</u>		<u>TOTAL SAMPLE</u>	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
<u>CAM</u>						
CYAM	12	44.4	15	55.6	27	100.0
COAM	12	46.2	14	53.8	26	100.0
<u>CPAM</u>						
CYPAM	11	34.4	21	65.6	32	100.0
COPAM	12	42.9	16	57.1	28	100.0

- <sup>a</sup> CAM = Children of Adolescent Mothers  
 CYAM = Children of Younger Adolescent Mothers  
 COAM = Children of Older Adolescent Mothers  
 CPAM = Children of Post-Adolescent Mothers  
 CYPAM = Children of Younger Post-Adolescent Mothers  
 COPAM = Children of Older Post-Adolescent Mothers

### Trauma and Illness

Children had no reported trauma at birth or chronic illness. This was part of the pre-stated criteria and children with either trauma at birth or chronic illness were eliminated from the study.

### Marital Status

Of the 113 subjects, 29 (25.7%) were single, never married, 56 (49.6%) were married, 16 (14.2%) were separated, 10 (8.8%) were divorced, and 2 (1.8%) were widowed. (Table 5).

Table 5

Frequency and Percentage Distribution of  
Marital Status by Subgroup<sup>a</sup>

<u>Subgroup</u>	<u>Single Never Married</u>		<u>Married</u>		<u>Separated</u>		<u>Divorced</u>		<u>Widowed</u>		<u>Total</u>	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
AM												
YAM	20	74.1	5	18.5	2	7.4	0	0	0	0	27	100.0
OAM	5	19.2	12	46.2	3	11.5	4	15.4	2	7.7	26	100.0
PAM												
YPAM	3	9.4	20	62.5	4	12.5	5	15.6	0	0	32	100.0
OPAM	1	3.6	19	67.9	7	25	1	3.6	0	0	28	100.0
TOTAL											113	100.0

<sup>a</sup>

AM = Children of Adolescent Mothers

YAM = Children of Younger Adolescent Mothers

OAM = Children of Older Adolescent Mothers

PAM = Children of Post-Adolescent Mothers

YPAM = Children of Younger Post-Adolescent Mothers

OPAM = Children of Older Post-Adolescent Mothers

Ethnicity

The subjects were of Hispanic origin. Ethnicity was part of the pre-stated criteria. Subjects of non-Hispanic origin could participate but were eliminated from the sample used for this study.

Income

Income level was grouped according to the amount of money earned per month by the family (Table 6). Of the total sample (113), 45 (39.8%) reported an income of \$0

\$499 per month, 41 (36.3%) reported an income of \$500 - \$999 per month, 16 (14.2%) reported an income of \$1000 - \$1999 per month, 3 (2.7%) reported an income of \$2000 - \$2499 per month, and 5 (4.4%) reported not knowing their income.

Table 6  
Frequency and Percentage Distribution  
Of Income by Subgroups<sup>a</sup>

\$	<u>0 -</u> <u>499</u>		<u>500 -</u> <u>999</u>		<u>1000-</u> <u>1499</u>		<u>1500-</u> <u>1999</u>		<u>2000-</u> <u>2499</u>		<u>2500 OR</u> <u>MORE</u>		<u>DON'T</u> <u>KNOW</u>		<u>TOTAL</u> <u>SAMPLE</u>	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
Sub- Group																
AM																
YAM	14	15.9	9	33.3	3	11.1	0	0	1	3.7	0	0	0	0	27	100.0
OAM	7	26.9	13	50.0	5	19.2	0	0	0	0	0	0	1	3.8	26	100.0
PAM																
YPAM	12	37.5	11	34.4	7	21.9	0	0	0	0	0	0	2	6.3	32	100.0
OPAM	12	42.9	8	28.6	4	14.3	0	0	2	7.1	0	0	2	7.1	28	100.0
TOT.	45	123.2	41	146.3	19	66.5	0	0	3	10.8	0	0	5	17.2	113	100.0

<sup>a</sup>

AM = Children of Adolescent Mothers

YAM = Children of Younger Adolescent Mothers

OAM = Children of Older Adolescent Mothers

PAM = Children of Post-Adolescent Mothers

YPAM = Children of Younger Post-Adolescent Mothers

OPAM = Children of Older Post-Adolescent Mothers

People Living in the Home With the Child

The mean number of people living in the home with the child was 4.25 and the standard deviation was 1.75. The range was 12 with a low of 1 and a high of 13 people living in the home. Of the younger adolescent mothers, 8 (29.6%) reported having 4 living in the home with them and 6 (22.2%) reported having 5 family members living in the home with them. Of the older adolescent mothers, 8 (30.8%) reported having 4 family members living with them and 7 (26.9%) reported having 3 family members living with them. Of the younger post-adolescent mothers, 9 (28.1%) reported having 3 family members living with them and 10 (35.7%) reported having 4 family members living with them (Table 7). Only one (3.7%) younger adolescent mother and one (3.7%) younger post-adolescent mother reported having 13 family members living in the home with the child.

Table 7  
Frequency and Percentage of People Living  
In The Home With the Child

NUMBER											Total Sample n %
1	2	3	4	5	6	7	8	>9			
n %	n %	n %	n %	n %	n %	n %	n %	n %			
SUB GROUP											
CYAM		2 (7.4)	5 (18.5)	8 (29.6)	6 (22.2)	4 (14.8)		1 (3.7)	1 (3.7)	27 (100)	
COAM	1(3.8)	3(11.5)	7 (26.9)	8 (30.8)	4 (15.4)	2 (7.7)	1 (3.8)			26 (100)	
CYPAM		6(18.8)	9 (28.1)	6 (18.8)	4 (12.5)	1 (3.1)	1 (3.1)	1 (3.1)	1 (3.1)	32 (100)	
COPAM		1 3.6	5 (17.9)	10(35.7)	8 (28.6)	3 (10.7)		1 (3.1)		28 (100)	

a

CYAM = Children of Younger Adolescent Mothers

COAM = Children of Older Adolescent Mothers

CYPAM = Children of Younger Post-Adolescent Mothers

COPAM = Children of Older Post-Adolescent Mothers

### Financial Support For The Family

Of the 113 subjects, 33 (29.2%) reported that they were providing the financial support for the family, 61 (54%) reported the father was providing financial support, 7 (6.2%) reported the grandmother was providing the support, and 12 (10.6%) reported that other (brother, sister, uncle, and older children) were providing the support for the family (Table 8). Of the adolescent mothers, 22 (42%) reported themselves to be providing the support while 21 (42%) reported the father as providing the support. In the post-adolescent group, 11 (37%) named themselves as

providing the support, while 40 (67%) reported the father to be providing the support. Six (11%) adolescents reported the grandmother to be providing the financial support, while only 1 (2%) of the post-adolescent mothers reported the grandmother to be providing the financial support.

Table 8  
Frequency and Percentage Distribution  
Of Financial Support by Subgroup<sup>a</sup>

<u>SUBGROUP</u>	<u>MOTHER</u>		<u>FATHER</u>		<u>GRANDMOTHER</u>		<u>OTHER</u>		<u>MEDICAID</u>	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
AM										
YAM	12	44.4	9	33.3	5	18.5	1	3.7	9	33.3
OAM	10	38.5	12	46.2	1	3.8	3	11.5	12	46.6
PAM										
YPAM	5	15.6	21	65.6	1	3.1	5	15.6	14	43.8
OPAM	6	21.4	19	67.9	0		3	10.7	6	21.4

NOTE: Because more than one answer was possible, percentages total more than 100% so they were not included.

a

CAM = Children of Adolescent Mothers

CYAM = Children of Younger Adolescent Mothers

COAM = Children of Older Adolescent Mothers

CPAM = Children of Post-Adolescent Mothers

CYPAM = Children of Younger Post-Adolescent Mothers

COPAM = Children of Older Post-Adolescent Mothers



### Mother in School

Of the total sample, 15 (13%) mothers reported themselves to be in school; 1 (.8%) mother did not respond to the question. Of the 53 adolescent mothers, 11 (20%) reported being in school while 4 (7%) of the 60 post-adolescent mothers reported being in school. Of the adolescent mothers, 52 (93%) reported not being in school and 55 (92%) of the post-adolescent mothers reported not being in school.

### Grade in School

Of the 15 mothers who reported being in school, the mean years of school attendance was 12.3 years ( $SD = 1.15$ ). The range was 3 years with a low of 11 years and a high of 14 years. Of the 113 mothers, 101 (89%) did not answer the question. The mothers reported they did not have a clear understanding of the wording in the daycare/school attendance question.

### Highest Grade Completed

Of the total sample, who reported educational attainment, the mean years of school attendance was 10.8 years ( $SD = 2.00$ ). The range was 15 years with a low of 6 years and a high of 21 years. Of the 53 adolescent mothers, 21 (40%) reported having graduated from high school, while 25 (42%) of the post-adolescent mothers reported having graduated (Table 9). Of the younger adolescent mothers, 9

(2%) reported having graduated, while 12 (23%) of the older adolescent mothers reported having graduated. The next largest number of years in attendance was 8 (29.6%) of the younger adolescent mothers attained a 9th grade education, while 7 (26.9%) attained a 7th grade education. Of the post-adolescent mothers, 5 (15.6%) attained a 10th grade education, while 4 (14.3%) attained a 9th grade education.

Table 9

Frequency and Percentage Distribution of the 113 Mothers Who Reported Educational Attainment by Four Subgroups<sup>a</sup>

Years	AM		PAM					
	<u>YAM</u>		<u>OAM</u>		<u>YPAM</u>		<u>OPAM</u>	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
6							4	14.3
7					1	3.1		
8	1	3.7			1	3.1	2	7.1
9	8	29.6	3	11.5	4	12.5	4	14.3
10	4	14.8	7	26.9	5	15.6	3	10.7
11	3	11.1	2	7.7	2	6.3	2	7.1
12	9	33.3	12	46.2	14	43.8	11	39.3
13					2	6.3	1	3.6
14					1	3.1	1	3.6
15					1	3.1		
21			1	3.8				
Missing	2	7.4	1	3.8	1	3.1		
TOTAL	27	100.0	26	100.0	32	100.0	28	100.0

- <sup>a</sup> YAM = Children of Younger Adolescent Mothers  
 OAM = Children of Older Adolescent Mothers  
 PAM = Children of Post-Adolescent Mothers  
 YPAM = Children of Younger Post-Adolescent Mothers  
 OPAM = Children of Older Post-Adolescent Mothers

### Maternal Employment

Of the total sample, 28 (24.8%) mothers reported working, while 85 (75.2%) mothers reported not working. Of the total sample of adolescent mothers, 16 (60.2%) reported working while 12 (41.1%) of the post-adolescent mothers reported not working.

### Child Care, Day Care, and Preschool Attendance

While the mother works, 11 (9%) of the total sample reported that the grandmother was providing child care; 15 (13%) reported a day care setting was providing child care; 2 (2%) reported the father was providing child care; and 79 (70%) reported other settings like friends, private sitters, older siblings, and relatives were providing child care. Two (2%) of the respondents did not answer the question.

Of the total sample, 23 (43%) adolescent mothers reported that the child had been enrolled in a day care center while 12 (2%) of the post-adolescent mothers had their children enrolled in a day care setting. Formal preschool attendance by the child was reported by 28 (53%) of the adolescent mothers while 12 (2%) of the post-adolescent mothers reported preschool experience for their child.

### The Status of the Child's Father

Of the total sample, 22 (42%) of the adolescent mothers reported the father as living in the home while 31 (58%)

reported the father not living in the home. Of the 27 younger adolescent mothers, 12 (45%) reported the father as living in the home, while of the 26 older adolescent mothers, 10 (38%) reported the father to be in the home. In the sample of post-adolescent mothers (60), 36 (60%) reported the father to be living in the home, while 24 (40%) reported the father to be living elsewhere. Of the 32 younger post-adolescent mothers, 17 (53%) reported the father as living in the home while 19 (67.9%) of the older post-adolescent mothers reported the father to be living in the home.

The mothers reported the frequency of how often the father sees the child (Table 10). Of the total sample, 27 (23.9%) never see the child, 59 (52.2%) see the child daily, 10 (8.8%) see the child once a week, 3(2.7%) see the child less than once a month, 4 (3.5%) see the child once a month, and 10 (8.8%) reported other without specifying the reason.

Table 10

Frequency and Percentage Distribution of How Often 113  
Fathers See Child as Reported by Subgroup<sup>a</sup>

<u>TIMES</u>	<u>AM</u>				<u>PAM</u>				<u>TOTAL</u>	
	<u>YAM</u>		<u>OAM</u>		<u>YPAM</u>		<u>OPAM</u>			
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
Never	9	33.3	2	7.7	14	43.8	2	7.1		
Daily	12	44.4	10	38.5	17	53.1	20	71.4		
Once A Week	4	14.8	2	7.7			4	14.3		
Less Than Once A Month	2	7.4	1	3.8						
Once A Month			2	7.7	1	3.1	1	3.6		
Other			9	34.6			1	3.6		
TOTAL	27	100.0	26	100.0	32	100.0	28	100.0	113	100.0

<sup>a</sup> AM = Adolescent Mothers  
 YAM = Younger Adolescent Mothers  
 OAM = Older Adolescent Mothers  
 PAM = Post-Adolescent Mothers  
 YPAM = Younger Adolescent Mothers  
 OPAM = Older Adolescent Mothers

Of the total sample, 80 (71%) reported the father to be working, while 12 (11%) reported the father was not working and 21 (19%) did not know if the father was employed. In the younger adolescent mothers, 17 (63%) reported the father worked, while 21 (80.3%) post adolescent mothers reported the father to be working. Of the younger post-adolescent mothers, 21 (65.6%) and 21 (75.0%) older post-adolescent mothers reported the father to be working. One younger adolescent mother did not report the father's work status.

Of the total sample, 11 (10%) of the mothers reported the father was not in school, 83 (73%) reported the father was not in school, and 27 (24%) did not know if the father was in school. Of the adolescent mothers, 38 (72%) reported the father was not in school while 45 (75%) post-adolescent mothers reported the father was not in school. Two (2%) of the total sample did not respond to this question.

#### Siblings in the Home

Of the total sample, 98 (87%) reported that the child had siblings while 15 (13%) reported the child to have no brothers or sisters. The mean number of siblings was 1.55 ( $SD = 1.28$ ). The range was 6.00 with a low of 0 and a high of 6 siblings in the home. Of the total sample, 91 (80.5%) reported that the siblings lived in the home, while 22 (19.5%) reported the siblings to be living elsewhere.

#### Caretaker

Of the total sample, 97 (85.8%) reported the mother as the primary caretaker while 6 (5.3%) reported the father to be the primary caretaker, 7 (6.2%) reported the grandmother to be primary caretaker, and 3 (2.7%) reported "other" as the primary caretaker (Table 11). In all instances but 5 (4%), the mother was the person completing the form.

Table 11  
Frequency and Percentage of Primary Caretaker  
by Subgroup <sup>a</sup>

Sub Group	Mother n    %		Primary Caretaker				Total Sample n    %			
			Father n    %		Grandmother n    %				Other n    %	
YAM	16	59.3	6	22.2	5	18.5			27	100.0
OAM	24	92.2			1	3.9	1	3.9	26	100.0
YPAM	31	97.0			1	3.0			32	100.0
OPAM	26	92.9					2	7.1	28	100.0
TOTAL									113	100.0

<sup>a</sup> YAM = Children of Younger Adolescent Mothers  
OAM = Children of Older Adolescent Mothers  
YPAM = Children of Younger Post-Adolescent Mothers  
OPAM = Children of Older Post-Adolescent Mothers

### Age of Mother

Of the total sample, 92 (81%) mothers reported the age of their mothers at their births. The mean age was 23.3 (SD = 6.79). The range was 31 with a low of 14 and a high of 45 (Table 12).

The mean age of the younger adolescent mothers was 20.9 (SD = 6.85). The range was 30 with a low of 14 and a high of 44. The mean age of older adolescent mothers was 20.7 (SD = 4.38). The range was 17 with a low of 17 and a high of 24. The mean age of the younger post-adolescent mother was 24.4 (SD = 5.98). The range was 22 with a low of 16 and a high of 38. The mean age of the older post-adolescent mother was 27.1 (SD = 8.32). The range was 30 with a low of 15 and a high of 45.

Table 12  
Frequency and Percentage Distribution of Age  
(Years) of Mother by Subgroup<sup>a</sup>

AGE (YEARS)	AM				PAM			
	YAM		OYAM		YPAM		OPAM	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
0								
14	2	7.4						
15	1	3.7					1	3.6
16	3	11.1			1	3.1	1	3.6
17	1	3.7	4	15.4	2	6.3		
18	2	7.4	5	19.2	1	3.1		
19	2	7.4	3	11.5	1	3.1		
20	2	7.4	2	7.7	3	9.4	4	14.3
21	2	7.4			2	6.3		
22	1	3.7	4	15.4	5	15.6	2	7.1
23					4	12.5		
24			1	3.8	2	6.3	1	3.6
25					1	3.1		
26	2	7.4						
27			1	3.8	1	3.1	2	7.1
28							1	3.6
29	1	3.7	1	3.8				
30					2	6.3	3	10.7
31					2	6.3		
32								
33								
34			1	3.8	1	3.1		
35					1	3.1		
36								
37					1	3.1		
38					1	3.1	1	3.6
39							1	3.6
40							1	3.6
44	1	3.7						
45							1	3.6
Missing	7	25.9	4	15.4	1	3.1	9	32.1
TOTAL	27	100.0	26	100.0	32	100.0	28	100.0

a

AM = Adolescent Mothers  
YAM = Adolescent Mothers  
OAM = Adolescent Mothers  
PAM = Post-Adolescent Mothers  
YPAM = Younger Post-Adolescent Mothers  
OPAM = Older Post-Adolescent Mothers



## Findings

Descriptive analyses were performed on variables related to school readiness and quality of the home environment. The ABC Inventory to assess kindergarten and school readiness was used to determine the level of school readiness of the child. The total score was converted to school readiness age based on the table in the instrument. In this study, differences in means of school readiness scores between children born to adolescent mothers and those born to post-adolescent mothers was calculated.

The mean readiness age in months of the total sample of 113 children was 65.5 or 5.45 years (SD = 9.37) (Table 13). The range was 3.7 with a low of 42 and a high of 79.

The mean readiness age for the younger adolescent mother was 64.2 (SD = 6.94). The range was 25 with a low of 54 and a high of 79 while for the older adolescent mother, the mean readiness age was 67.9 (SD = 10.0). The range was 37 with a low of 42 and a high of 79. For the younger post-adolescent mother, the mean readiness age was 65.6 (SD = 10.4). The range was 32 with a low of 47 and a high of 79 while for the older post-adolescent mothers the mean readiness age was 64.3 (SD = 9.5). The range was 32 with a low of 47 and a high of 79. The readiness age is derived from the total raw score of the ABC Inventory. The total

raw score suggests a readiness age regardless of the child's chronological age (Adair & Blesch, 1965).

Table 13

Frequency and Percentage Distribution of Readiness Age Of 113 Children by Subgroup<sup>a</sup>

READINESS AGE (Months) Of Child	AM				PAM			
	YAM		OAM		YPAM		OPAM	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
40-44			1	4.0				
45-49			1	4.0	3	9.0	2	7.0
50-54	4	15.0	1	4.0	5	16.0	2	7.0
55-59	1	4.0	3	12.0	2	6.0	5	18.0
60-64	9	33.0	1	4.0	3	9.0	4	14.0
65-69	6	22.0	4	15.0	5	16.0	7	25.0
70-74	5	19.0	7	27.0	5	16.0	2	7.0
75-79	2	7.0	8	31.0	9	28.0	6	21.0
TOTAL SAMPLE	27	100.0	26	100.0	32	100.0	28	100.0

<sup>a</sup> AM = Adolescent Mothers  
 YAM = Younger Adolescent Mothers  
 OAM = Older Adolescent Mothers  
 PAM = Post-Adolescent Mothers  
 YPAM = Younger Adolescent Mothers  
 OPAM = Older Adolescent Mothers

### Results of The Home Screening

The questionnaire used provided an assessment of the home. In addition to a total score, based on family activities and how the child's time was spent, up to 14 points could be obtained by completing a check list of 50 toy items. The total score was then categorized as "Suspect" if the Home Screening Questionnaire (HSQ) was 32

or below. The total score was "Non-Suspect" if the Home Screening Questionnaire (HSQ) was 33 or above.

The mean score of the HSQ for the total sample of 113 respondents was 33.82 (SD = 8.57) (Table 14). The range is 41 with a low of 11 and a high of 52.0. In the younger adolescent mothers, the mean score was 64.2 (SD = 6.94). The range was 25 with a low of 54 and a high of 79. In the older adolescent mother, the mean was 32.9 (SD = 7.83). The range was 31 with a low of 14 and a high of 45. Of the younger post-adolescent mothers, the mean was 65.6 (SD = 10.4). The range was 32 with a low of 47 and a high of 79. Of the older post-adolescent mothers, the mean was 64.3 (SD = 9.56). The range was 32 with a low of 47 and a high of 79.

To test the research hypotheses, the data were analyzed by statistical procedures. Next, the hypotheses are stated, statistics are described, and findings presented.

Table 14  
Frequency and Percentage Distribution of  
HSQ Scores of 113 Children by Subgroup<sup>a</sup>

TOTAL SCORES <sup>b</sup>	CAM				CPAM			
	CYAM		COAM		CYPAM		COPAM	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
11	2	7.4						
13					1	3.1		
14			1	3.8				
19	1	3.7						
20					3	9.4		
22			2	7.7			1	3.6
23	1	3.7						
24	1	3.7	2	7.7	1	3.1		
25	2	7.4			3	9.4	1	3.6
26	1	3.7	1	3.8				
27	1	3.7			1	3.1	1	3.6
28			1	3.8	1	3.1	1	3.6
29	1	3.7	1	3.8	1	3.1		
30	2	7.4	2	7.7			1	3.6
31					3	9.4	2	7.1
32	4	14.8	1	3.8	1	3.1	1	3.6
33	1	3.7	4	15.4			2	7.1
34							2	7.1
35					1	3.1		
36			1	3.8	1	3.1	2	7.1
37			1	3.8	1	3.1		
38	1	3.7	1	3.8	3	9.4		
39	1	3.7	1	3.8	3	9.4	1	3.6
40	1	3.7	3	11.5			1	3.6
41	1	3.7						
42	3	11.1	2	7.7	4	12.5	5	17.9
43	1	3.7			1	3.1	1	3.6
44			1	3.8	1	3.1	1	3.6
45	2	7.4	1	3.8	1	3.1	2	7.1
46					1	3.1		
47							1	3.6
48							1	3.6
52							1	3.6
TOTAL	27	100.0	26	100.0	32	100.0	28	100.0

<sup>a</sup> CAM = Children of Adolescent Mothers  
CYAM = Children of Younger Adolescent Mothers  
COAM = Children of Older Adolescent Mothers  
CPAM = Children of Post-Adolescent Mothers  
CYPAM = Children of Younger Post-Adolescent Mothers  
COPAM = Children of Older Post-Adolescent Mothers

<sup>b</sup> If total HSQ score is 32 or below, the HSQ result is Suspect.  
If total HSQ score is 33 or above, the HSQ result is Non-Suspect.

### Hypothesis 1

H<sub>1</sub>: The level of school readiness of children born to Hispanic post-adolescent mothers will be higher than the level of school readiness of children born to Hispanic adolescent mothers.

One way analysis of variance was used to determine the level of school readiness between groups. There were no significant differences in the school readiness ages of children born to adolescent mothers and children born to post-adolescent mothers. The results of the one way analysis of variance test revealed a calculated  $F = .5768$  with no significant differences between groups at  $p < .05$ . Therefore, H<sub>1</sub> was not supported.

### Hypotheses 2 and 3

H<sub>2</sub>: The level of school readiness of children born to older Hispanic adolescent mothers will be higher than the level of school readiness of children born to younger Hispanic adolescent mothers.

H<sub>3</sub>: The level of school readiness of children born to older Hispanic post-adolescent mothers will be higher than the level of school readiness of children born to younger Hispanic post-adolescent mothers.

A one-way analysis of variance with four groups was used to analyze Hypotheses 2 and 3 (Table 15). The results

of the test revealed a calculated  $F = .8860$  with no significant differences between groups at  $p \leq .45$ . Therefore,  $H_2$  and  $H_3$  were not supported.

Table 15  
One-Way Analyses of Variance in Readiness  
Age of Subgroups

SOURCE	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Between Groups	234.2820	3	78.094	.8860	.45
Within Groups	9607.7003	109	88.1440		
TOTAL	9841.9823	112			

#### Hypothesis 4

$H_4$ : The quality of home environment of children born to Hispanic post-adolescent mothers will be higher than the quality of home environment of children born to Hispanic adolescent mothers.

A one-way analysis of variance with four groups was used to analyze Hypothesis 4 (Table 16). The results of the test revealed a calculated  $F = 3.04$  with no significant differences between groups at  $p \leq .08$ . Therefore,  $H_4$  was not supported.

Table 16

One-Way Analysis of Variance in Quality of  
Home Environment of Subgroups

<u>SOURCE</u>	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Between Groups	219.6401	1	219.6401	3.04	.08
Within Groups	8010.8201	111	72.1696		
TOTAL	8230.4601	112			

Hypothesis 5

H<sub>5</sub>: The quality of home environment and the level of school readiness of the children born to both Hispanic adolescent and post-adolescent mothers will be positively related.

A Pearson Product Moment Correlation coefficient was calculated to measure the relationship between quality of home environment and school readiness scores. The Pearson Product Moment Correlation coefficient yielded  $r = .26$  ( $p \leq .01$ ).

The results indicated that there was a significantly positive relationship; as the quality of the home environment increased, the readiness age increased. Therefore, H<sub>5</sub> was supported.

### Hypothesis 6

H<sub>6</sub>: There will be an inverse relationship between chronological age and school readiness age in children born to Hispanic adolescent mothers and in children born to Hispanic post-adolescent mothers.

A Pearson Product Moment Correlation coefficient was calculated to measure the relationship between chronological age and school readiness age in children born to adolescent and children born to post-adolescent mothers. The Pearson Product Moment Correlation yielded  $r = .57$  ( $p \leq .01$ ). The results indicated a moderately positive relationship between chronological age and school readiness age in children of adolescent mothers. The Pearson Product Moment Correlation yielded  $r = .60$  ( $p \leq .01$ ). The results indicated a moderately positive relationship between chronological age and school readiness age in children born of post-adolescent mothers. Therefore, H<sub>6</sub> was not supported.

### Hypothesis 7

H<sub>7</sub>: There will be a significant difference in the level of school readiness of children born to Hispanic adolescent and post-adolescent mothers according to differences in income level, primary caretaker, educational attainment of the mother and primary caretaker, living arrangements,



marital status of the mother, grades of the child, attendance of the child in daycare, and formal preschool experience of the child.

An analysis of variance and co-variance with repeated measures was used to analyze Hypothesis 7. There were no significant differences between level of school readiness and variables of caretaker, marital status, gender, daycare, and pre-school attendance (Table 17). Therefore,  $H_7$  was not supported.

Table 17  
Covariance with Repeated Measures For  
School Readiness by Subgroup

<u>VARIABLE</u>	<u>SUM OF SQUARES</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>p</u>
Primary Caretaker	394.96004	131.65335	1.48	.224
Marital Status	564.76570	188.25523	2.15	.097
Sex	0.01538	0.01538	0.00	.984
Day Care	339.05239	339.05239	3.90	.051
Preschool Attendance	252.21174	252.21174	2.95	.088

A Pearson Product Moment Correlation coefficient was calculated to measure the relationship between readiness age and educational attainment of the mother and primary caretaker. The test results revealed that there was no relationship between the child's readiness age and the caretaker's educational attainment ( $p \leq .05$ ). The Pearson Product Moment correlation yielded  $r = .07$ .

#### Hypothesis 8

H<sub>8</sub>: There will be a significant difference in quality of the home environment of children born to Hispanic adolescent and post-adolescent mothers according to differences in income level, primary caretaker, educational attainment of the mother and primary caretaker, those living with the child, marital status of the mother, gender of the child, attendance of the child in daycare, and formal experience of the child.

An analysis of variance and co-variance with repeated measures was calculated to measure the differences in home environment according to differences in caretaker, marital status, gender, daycare, and preschool attendance.

There was a significant difference between the groups (adolescent and post-adolescent mothers) in the quality of home environment according to caregiver at the  $F = 2.95$  ( $p = .036$ ) (Table 18).

The quality of the home environment was not influenced by the age of the mother and marital status at the  $F = 1.35$  ( $p = .26$ ). There was no significant difference in the quality of home environment according to differences in marital status.

The quality of home environment is not dependent on the age of the mother or the gender of the child at the  $F = 3.77$  ( $p = .05$ ). There were no differences in quality of home environment according to maternal age or gender of child.

Home environment is not dependent on the attendance of the child in a daycare center or the age of the mother at the  $F = .79$  ( $p = .37$ ).

The quality of home environment is dependent upon the age of the mother at the  $F = 4.29$  ( $p = .0407$ ). The age of the mother is significant as it relates to the quality of home environment. The older the parent the higher the score on the home environment questionnaire. Quality of home environment is significant according to pre-school attendance at  $F = 4.29$  ( $p \leq .041$ ). The higher the score on the home environment questionnaire, the larger the number of children attending pre-school.

Table 18  
Covariance with Repeated Measures for Home  
Environment by Subgroups

<u>VARIABLE</u>	<u>SUM OF SQUARES</u>	<u>MEAN SQUARE</u>	<u>F</u>	<u>P</u>
Caretaker	590.15256	196.71752	2.95	.036
Marital Status	297.21351	99.07117	1.35	.262
Gender	266.75858	266.75858	3.77	.054
Day Care	57.37856	57.37856	.79	.376
PreSchool	6.91935	6.91935	4.29	.041

### Summary of Findings

Descriptive analyses using frequencies, percentages, means, and standard deviations were used to describe the variables of maternal age, child's age, gender of the child, income level of the family, educational attainment of the caretaker, who lives with the child, attendance of the child in daycare and pre-school.

The statistical findings did not support hypotheses  $H_1$ ,  $H^2$ ,  $H_3$ ,  $H_4$ ,  $H_6$ , and  $H_7$ ; therefore, these hypotheses were rejected. Hypothesis 5 was accepted. In  $H_8$ , caretaker and preschool experience were found to be significantly different between the groups according to the quality of home environment. However, marital status, gender, and day care were not significantly different between the groups according to the quality of home environment.

## CHAPTER 5

### SUMMARY OF THE STUDY

The purpose of this study was to examine the difference in the level of school readiness between children born to adolescent and post-adolescent Hispanic mothers. The quality of home environment in the two groups was also examined and compared. In addition, chronological age as it relates to readiness age was examined. Lastly, it was hypothesized that extraneous variables would be significantly different between the two groups.

This chapter includes a summary of the study, discussion of findings, conclusions and implications, and recommendations for further study.

#### Summary

A two group, nonexperimental design was used for the study. A nonprobability convenience sampling technique was used to select the subjects who met the criteria. Hispanic adolescent and post-adolescent mothers and their children who attend service clinics located in a community health department, were asked to participate in the study. From the 160 subjects which were included in the study, 113 mothers completed and returned the Family Information

Questionnaire and the Home Screening Questionnaire. The ABC Inventory was administered to each of the children whose parent had participated by completing and returning the forms. Results of individual scores with recommendations were provided for the parents upon completion of the ABC Inventory by the child.

The age of the mother at the time of birth of the child was used to group the sample into two groups: children born to adolescent mothers and children born to post-adolescent mothers. The two sample groups were further divided into four major groups: children born to younger adolescent mothers and those born to older adolescent mothers and children born to younger post-adolescent mothers and those born to older post-adolescent mothers.

Descriptive data were summarized by measures of central tendency and variability and were analyzed using the Pearson product-moment correlation coefficient and inferential statistics which included one-way analysis of variance and analyses of covariance. No significant differences were found in the school readiness scores between those children born to Hispanic adolescent mothers and those children born to Hispanic post-adolescent mothers. No significant differences were found in the quality of home environment between those children born to Hispanic adolescent mothers and those children born to Hispanic post-adolescent mothers.

However, a positive relationship was found between home environment scores and school readiness scores in children born to adolescent mothers and those born to post-adolescent mothers. In addition, no significant differences were found in the school readiness scores and home environment scores of children born to adolescent mothers and those born to post-adolescent mothers according to educational attainment of mother and primary caretaker, marital status, gender of the child, and attendance of the child in day care.

However, a significant difference ( $F = 4.29, p \leq .0407$ ) between home environment and pre-school experience was found in children born to adolescent and those born to post-adolescent mothers. A significant difference ( $F = 2.95, p \leq .036$ ) was found between home environment and the child's caregiver of children born to adolescents and those born to post-adolescent mothers.

### Discussion of Findings

Descriptive data analyses and hypotheses testing were compared to previous research done on teenage pregnancy and motherhood. Consistent with findings of Guttmacher (1989), and Smith (1980), data from this study indicated that adolescent mothers were more likely to be single and never married (47%) than were post-adolescent mothers (53%). Consistent with Plumb (1988), this investigator found that

the adolescent mother had primary responsibility for the child. The results of this study were also consistent with findings by Mercer et al. (1984). Mercer et al. (1984) demonstrated that the grandmother was helpful but did not provide financial support or care for the child. The present study determined that adolescent mothers cited the father as providing financial support for the child.

Lieberman (1980) cited adolescent pregnancy as the major cause for girls leaving school. Nationally, fifty percent or less of school-age parents graduate. Four in ten mothers under the age of fifteen never complete the eighth grade; nine in ten never finish high school. Eight of every ten school-age mothers seventeen and under do not complete high school (Morrison & Jensen, 1982). This study showed that almost half (47%) of the adolescent mothers reported they had reached twelfth grade or had graduated. Only 21% reported they were not currently in school. In addition, from 60 post-adolescent mothers, only 7% reported they were currently in school and 42% reported having reached twelfth grade and/or graduated.

This study indicated that adolescent mothers (40%) reported their own mothers to be between the ages of 12 and 19 at the time of their birth; post-adolescent mothers (12%) reported their own mothers to be between the ages of 12 and 19 at the time of their birth. This data is consistent with



researchers Newcomer & Udry (1983) and Presser (1980), whose findings indicated that the earlier the mother's first sexual experience and first birth, the earlier the daughter's experience.

In addition, to the analyses of the demographic data, the eight hypotheses tested were:

- H<sub>1</sub>: The level of school readiness of children born to Hispanic post-adolescent mothers will be higher than the level of school readiness of children born to Hispanic adolescent mothers.
- H<sub>2</sub>: The level of school readiness of children born to older Hispanic adolescent mothers will be higher than the level of school readiness of children born to younger Hispanic adolescent mothers.
- H<sub>3</sub>: The level of school readiness of children born to older Hispanic post-adolescent mothers will be higher than the level of school readiness of children born to younger Hispanic post-adolescent mothers.
- H<sub>4</sub>: The quality of home environment of children born to Hispanic post-adolescent mothers will be higher than the quality of home environment of children born to Hispanic adolescent mothers.
- H<sub>5</sub>: The quality of home environment and the level of school readiness of the children born to both

Hispanic adolescent and post-adolescent mothers will be positively related.

- H<sub>6</sub>: There will be an inverse relationship between chronological age and school readiness age in children born to Hispanic adolescent mothers and in children born to Hispanic post-adolescent mothers.
- H<sub>7</sub>: There will be a significant difference in the level of school readiness of children born to Hispanic adolescent and post-adolescent mothers according to differences in income level, primary caretaker, educational attainment of the mother and primary caretaker, living arrangements, marital status of the mother, gender of the child, attendance of the child in daycare, and formal preschool experience of the child.
- H<sub>8</sub>: There will be a significant difference in quality of the home environment of children born to Hispanic adolescent and post-adolescent mothers according to differences in income level, primary caretaker, educational attainment of the mother and primary caretaker, those living with the child, marital status of the mother, gender of the child, attendance of the child in daycare, and formal experience of the child.

The results of this study demonstrated that the level of school readiness was not influenced by maternal age. In this study, there were no significant differences in the school readiness age of children born to adolescent mothers and children born to post-adolescent mothers; thus, the first, second, and third hypotheses were not supported. In addition, no differences were found between the groups. Similar results were reported by Cohen, Belmont, Dryfoos, Stein and Zayac (1981) and Rothenberg and Varga (1981). The latter reported that when 3 year olds of mothers 13 to 19 years of age were compared with children of mothers 20 to 40 years of age, the younger mother's children developmentally surpassed older women's children. Furthermore, it can also be postulated that the mothers in this group were aware of methods of stimulating their children's development and/or providing opportunities like attending daycare centers which provide developmentally directed activities.

Oppel and Royston (1971) reported that when 6-8 year olds of mothers 17 years of age and younger were compared with children of mothers 18 years and older, the younger children were handicapped intellectually, physically, and socially. Roosa, Fitzgerald and Carlson (1982) found that older mothers, when compared to adolescent mothers, had more optimal socioeconomic status, home environment, and mother-infant interaction patterns. Belmont et al. (1981)

concluded from their study that the children of teenage mothers suffered IQ depression only because of social disadvantages and not "immaturity of the mother."

The findings of this study did not substantiate the fourth hypothesis that the quality of home environment would be higher in Hispanic post-adolescent mothers. This study indicated that there was no significant difference in the quality of home environment between the groups. This finding is consistent with the literature. Elardo et al. (1977) found that during the first year of life of a child, physical and temporal environment along with daily stimulation are more strongly related to mental test performance. However, beginning at 12 months, provision of appropriate play materials and maternal involvement show strong relationships to mental performance. They concluded that different aspects of the home are most salient at certain times in development. The data obtained after 12 months of age indicated that enriching environments may be those in which the mother or primary caregiver provided the infant with a variety of age-appropriate learning materials and encouraged talking, looking at, or other positive responding to and attending to the child.

In this study, several different hypotheses may be considered as explanations of results obtained: (a) these mothers were providing a stimulating environment; (b) these

children were causing those in the environment to react in a stimulating factor; (c) some other factor was affecting both the child and the environment; (d) these mothers were more knowledgeable in aspects of child development; and (e) these mothers were taking advantage of the services available in the community, thus were better educated in child development.

Therefore, it can be postulated that in this study, the mothers were motivated to take advantage of the resources provided them through the clinic. The services available improved the mothers' knowledge of normal growth and development of their children through exposure to experiences of daycare or pre-school attendance. In addition, both mothers and children spoke English; the mothers had either obtained a high school diploma or were attending school. The majority of mothers worked and had others taking care of the children. According to the literature, when children are exposed to more than one caretaker, their cognitive, emotional, and social development is improved.

The quality of the home environment was positively related to the school readiness scores of children born to adolescent and post-adolescent mothers. Thus, hypothesis five was supported. Developmental psychologists (Erikson, 1963; Piaget, 1952) have shown that optimal learning occurs

when the relationship between parent and child is ongoing and consistent. The Home Screening Questionnaire (HSQ) has been found to be related to a child's growth and development (Coons et al., 1981). The HSQ was found to be a predictor of school readiness, as determined by the cognitive and psychosocial maturity of the child much like the HOME by Mother Questionnaire administered and tested by Plumb, 1988. In this study it can be shown that developmental outcomes can be predicted from an assessment of the home environment. Likewise, Plumb (1988) found in her study of black children born to adolescent and post-adolescent mothers that the environment was positively related to the school readiness scores.

Contrasting results were identified in the studies of Roosa (1982) and Oppel et al. (1971). The former identified that the children of younger mothers rated higher on development than did those of older mothers. However, Roosa (1982) noted that older mothers provided better home environments, more optimum interactions, and higher socioeconomic status. The latter noted that children of younger mothers were developmentally handicapped.

In this study, a moderately positive relationship existed between chronological age and school readiness age in children born to Hispanic adolescent mothers and in children born to Hispanic post-adolescent mothers.

Correlations existed between the variables, indicating that as chronological age increased, so did the school readiness age value. This relationship did not support the sixth hypothesis, which stated that a change in chronological age would be associated with an opposite change in the school readiness age in children born to Hispanic adolescent mothers. There was no difference between the groups in these two variables.

Primary caretaker, marital status of mother, gender of the child, attendance of the child in daycare and formal preschool experience of the child were not found to be significant predictors of school readiness in children born to Hispanic adolescent and post-adolescent mothers. Thus, hypothesis seven was rejected. The variables of income and those living with the child were not included in the data analysis. In the present study, results showed no relationship between school readiness and gender of children; however, David and Baldwin (1979) had earlier indicated that girls score higher on school readiness than do boys of the same age.

White and Watts (1973) found that children with parental involvement and encouragement gained in IQ as opposed to those that did not receive encouragement. In addition, encouraging parents spent more time with their children in activities that promoted competence. In this

study, there was a significant difference in hypothesis eight between home environment and preschool attendance of the child in daycare. In addition, there was a significant difference between the groups in the quality of home environment according to the caregiver. In this study, 70% of the adolescent and post-adolescent mothers were not employed, and the fathers were cited as living at home. There was no difference between the quality for home environment and educational attainment of the mother and/or primary caretaker, marital status of the mother, gender of the child, and attendance of the child in daycare. The two together can be viewed as providing a more stable environment for the child.

### Conclusions and Implications

Based on the findings of this study, the following conclusions were made:

1. Hispanic children of post-adolescent mothers are not ready to attend school earlier than children of adolescent mothers.
2. Hispanic children of younger adolescent and older adolescent mothers have similar school readiness scores.



3. Hispanic children of younger post-adolescent mothers and older post-adolescent mothers have similar school readiness scores.
4. Hispanic children of adolescent and post-adolescent mothers have similar home environments.
5. Maternal age is positively related to school readiness scores.
6. As the chronological age increases, school readiness increases in children born to adolescent mothers and those born to post-adolescent mothers.
7. There is no influence on school readiness according to primary caretaker, gender of the child, attendance of the child in daycare and formal preschool experience in both children born to adolescent mothers and those born to post-adolescent mothers.
8. Maternal age is positively related to home environment.
9. There is no influence on home environment according to primary caretaker, attendance of the child in day care, and gender of the child, in both children born to adolescent mothers and those born to post-adolescent mothers.

Implications were derived from the above conclusions.  
The findings of this study did not support the theoretical

literature differences in the school readiness and quality of home environment of children born to adolescent mothers and those born to post-adolescent mothers. However, additional investigation of Hispanic mothers who do not routinely attend the health clinic's setting may have differing results. In addition, a larger sample size will increase the ability to generalize findings.

In addition, methods of assessing school readiness testing should be implemented at entry level schooling through educators and/or nurses. Comparable school readiness by chronological age leads to a healthier child.

Because preschool attendance and the identity of the caretaker is influenced by the home environment, nurses should assess the importance of education within the family and stress the importance of parental involvement in the educational process, as well as stressing the importance of the caretaker's stimulation and its benefit toward development.

#### Recommendations for Further Study

1. The Family Information Questionnaire (Plumb, 1988) should be revised to differentiate more clearly the educational attainment of the mother.
2. The Family Information Questionnaire (Plumb, 1988) needs to be modified to reflect current use of term

DAYCARE or to name what daycare experience of child actually is. Rewording will allow easier differentiation between daycare and preschool experience.

3. This investigation should be replicated using stratified sampling procedures to include geographical and ethnic differences.
4. This investigation should be replicated with a larger sample size to increase generalizability.
5. A longitudinal study should be undertaken to assess school readiness and quality of home environment at school entry level and compare with success or failure in school at grades 3, 6, 9, and 12.
6. Findings should be made available to nurses, health care providers, and educators through publications and presentations.

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**APPENDIX A**  
**AGENCY APPROVALS**



TEXAS WOMAN'S UNIVERSITY  
COLLEGE OF NURSING  
DENTON, TEXAS 76204

DALLAS CENTER  
1810 INWOOD ROAD  
DALLAS, TEXAS 75235

HOUSTON CENTER  
1130 M. D. ANDERSON BLVD.  
HOUSTON, TEXAS 77030

AGENCY PERMISSION FOR CONDUCTING STUDY\*

THE Corpus Christi-Neuces County Health Department

GRANTS TO Mary Delores Garcia  
a student enrolled in a program of nursing leading to a Master's Degree at Texas Woman's University, the privilege of its facilities in order to study the following problem:

School readiness of children with Hispanic adolescent and post-adolescent mothers.

The conditions mutually agreed upon are as follows:

1. The agency (may) (may not) be identified in the final report.
2. The names of consultative or administrative personnel in the agency (may) (may not) be identified in the final report.
3. The agency (wants) (does not want) a conference with the student when the report is completed.
4. The agency is (willing) (unwilling) to allow the completed report to be circulated through interlibrary loan.
5. Other \_\_\_\_\_

Date: 05-08-90

Maria M. Garcia  
Signature of Agency Personnel

\_\_\_\_\_  
Signature of Student

\_\_\_\_\_  
Signature of Faculty Advisor

\* Fill out and sign three copies to be distributed as follows: Original-Student;  
First copy - agency; Second copy - TWU College of Nursing.

/bc

**APPENDIX B**  
**INFORMED CONSENTS**

### Description of the Study

You are being asked to participate in a research project. Before you agree to participate, please read this paper and ask any questions you want so that you can understand what you are agreeing to do.

The researcher is Mary Garcia, a nurse and doctoral student at Texas Woman's University. Mrs. Garcia is doing this project as a part of the requirements for graduation and because she is interested in child development.

The reason for doing this study is to help us understand whether or not there are differences in development of children of Hispanic teenage mothers. A child's readiness for kindergarten is one way to look at this development. If you are willing to participate, we will ask you to fill out two questionnaires that tell us about your home. We will also give a simple test to your child to determine if the child is ready for kindergarten. We will use this information for our study and will go over the results with you to help you better understand your own child.

Your child's individual score will not be used in the results of this study. Code numbers will be used instead of names.

You may withdraw from this research project at any time without any change in the care your child receives.

You may contact me at any time if you have any questions.

Thank you,

Mary Garcia  
(512) 991-4088

### Descripcion del Estudio

Se esta preguntando a usted que participe en un proyecto de investigacion. Antes de que usted este de acuerdo a participar, por favor leya este papel y pregunte cualquier cuestion que usted quiera para que usted entienda lo que usted esta de acuerdo hacer.

La investigadora es Mary Garcia, una cuidar y estudiante doctoral en el Texas Woman's University. La Senora Garcia esta haciendo este proyecto como parte de requisito para graduacion, y porque ella esta interesada en el desarrollo del nino.

La razon de este estudio es para ayudarnos a entender de todas maneras si hay diferencia en al desarrollo de ninos de madres Hispánicas jovenes do 13 a 19 anos de edad. La preparacion de un nino para la escuela de parvulos es una manera de como ver este desarrollo. Si usted esta dispuesta participar, nosotros le preguntariamos que llenara dos cuestionarios acerca de su hogar. Tambien le daremos un simple examen a su nino para determinar si el nino esta listo para la escuela de parvulos. Usaremos esta informacion para nuestro estudio y revisaremos los resultados con usted para ayudarla a entender a su propio nino mejor.

La nota individual de su nino no se usara en el resultado del estudio. Numero en cifra sere usado en lugar de nombres.

Usted puede retirarse de este proyecto investigativo a cualquier tiempo, sin algun cambio en el cuidado que su nino recibe.

Usted puede contactarme a cualquier tiempo si usted tiene alguna cuestion.

Gracias,

Mary Garcia  
(512) 991-4088

School Readiness of Children with Hispanic  
Adolescent and Post-Adolescent Mothers  
PARENTAL PERMISSION

The purpose of this study is to determine if maternal age at time of birth and home environment affects the school readiness of children. I hereby authorize Mary Garcia and her assistants to perform the following:

1. Ask my child to take the ABC Inventory to assess Kindergarten readiness. This session will take about 20 minutes.
2. Ask me to complete two questionnaires about my family and my home environment. The two questionnaires will take about 20 minutes to complete. I can do this while my child is taking the ABC Inventory.

I understand that the following risks are involved in my participation:

1. Loss of time since my child's visit may take longer because of the time required for test taking.
2. Risk of embarrassment to me by improper release of my child's test/questionnaire results.
3. Risk of anxiety because I or my child might be nervous at taking a test. Also I might be nervous about results of the questionnaires.

I understand that the benefits of participation will be that I will receive counseling by the researcher related to my child's test results with suggestions from her on ways to help my child become more ready for Kindergarten if needed. Society will benefit by learning more about children of teenage mothers.

I understand that there is no alternative similar project at this institution which might benefit my child/family.

I understand that my child's name will not be used in publication of the results of this study. However, I may choose to have my child's individual test results added to my child's clinic chart by the clinic nurses if I so desire by signing the appropriate line below. I understand that the investigator will use code numbers to identify the patients and will keep the information under lock and key.

I understand that my participation is voluntary and that I may withdraw my consent and discontinue participation in this study at any time without any change in the type or quality of care my child currently receives.

I understand that in the event of physical injury resulting from this research, Texas Woman's University is not able to offer financial compensation nor to absorb the costs of medical treatment. However, in the unlikely event that physical injury should occur, first aid will be provided as necessary.

An offer to answer all my questions regarding this study has been made. I have read this paper and will receive an originally signed copy of this consent form. I understand that I may contact Mary Garcia at (512) 991-4088 if further information is needed about this study.

Parent/Guardian	Date	Grandparent	Date
Investigator	Date	Witness(non-family)	Date
Parent/Guardian/Grandparent		Date	
I want my child's test results added to clinic record			
Parent/Guardian/Grandparent		Date	

Permision de Padres

Preparacion de Escuela en Ninos de Hispano Madres  
Adolescents y Hispano Madres Post-Adolescentes

La rason de este estudio es para ver si la edad de la mama en el tiempo de naciemiento affecta la facilidad de escuela de ninos.

Yo por la presente autorizo a Mary Garcia y los asistentes de elle que ejecuten lo siguiente:

1. Pregunten a mi nino que tome el Inventario ABC para gravar la Preparacion a la Escuela de Parvulos. Esta sesion tomara como 20 minutos
2. Pregunten a mi que complete un cuestionario acerca del medio ambiente de mi hogar y familia. Yo puedo hacer esto mientras mi nino esta tomando el Inventario ABC.

Yo comprendo que los siguientes riesgos estan comprometidos en mi participacion.

1. Perdida de tiempo porque la visita de mi nino puede tomar largo porque el tiempo que se requiere para tomar exámenes.
2. Riesgo de verguenza para mi por impropio lanzamiento del examen de mi nino/resultados del cuestionario.
3. Riesgo de ansiedad porque yo o mi nino puedanos estar nerviosos a tomar un examen. Tambien de porque yo pueda estar nerviosa de los resultados del examen/cuestionario.

Yo entiendo que los beneficios de participacion seran que yo recibire consejos relacionados con los resultados del examen de mi nino. La sociedad beneficiara por aprender mas acerca del nino de madres jovenes de 13 a 19 anos de edad.

Yo entiendo que no hay proyecto alternativo similar en esta institucion cual pueda beneficiar mi nino/familia.

Yo entiendo que el nombre de mi nino no sera usado en publicacion de los resultados de este estudio. En todo caso yo puedo conceder que el resultado individual del examen de mi nino se haga parte del archivo de la clinica. Yo entiendo que el investigatdor usara numeros en cifra para identificar pacientes y que dejara la informacion bajo llave.

Yo entiendo que puedo retirar mi consentir y descontinuar participacion en este estudio en cual quier tiemp sin ningun cambio en el tipo o calidad de cuidado que mi nino recibe al corriente.

Yo entiendo que ningun tratamiento medico o compensacion es proporcionado para mi de parte de Texas Woman's University y Centro Clinica de Ninos, a resultado de dano de participacion en este proyecto de investigacion. En el improbable caso que dano fisico ocurriera, tratamiento de emergencia se le dara, si necesario.

Se ha ofrecido respuestas a todas mis cuestiones tocante este estudio.

Yo repase este papel y recibire una copia de consentir formulario.

Yo entiendo que puedo contactar a Mary Garcia (512) 991-4088 si necesito mas informacion acerca de este estudio.

\_\_\_\_\_  
Padre o Madre/Guardian Fecha

\_\_\_\_\_  
Abuelo o Abuela

\_\_\_\_\_  
Fecha

\_\_\_\_\_  
Investigador Fecha  
Quiero los resultados  
de el exam de mi nino en  
el registro de la clinica.

\_\_\_\_\_  
Testigo (no familiar) Fecha

APPENDIX C  
QUESTIONNAIRES FOR MOTHER

Subject # \_\_\_\_\_  
Site \_\_\_\_\_

Child's Name \_\_\_\_\_  
Today's Date \_\_\_\_\_

### FAMILY INFORMATION QUESTIONNAIRE

Please fill in the blank or place an X in the appropriate space.

1. Birthdate of Child \_\_\_\_\_  
Month Day Year
2. Sex of Child  
\_\_\_\_ a. Male  
\_\_\_\_ b. Female
3. Birthdate of Mother \_\_\_\_\_  
Month Day Year
4. Did the child suffer trauma at birth or was the child premature?  
\_\_\_\_ a. Yes  
\_\_\_\_ b. No
5. Does the child have any acute or chronic illnesses?  
\_\_\_\_ a. Yes  
\_\_\_\_ b. No
6. Age of Father (if known) \_\_\_\_\_
7. Ethnic Background of Mother  
\_\_\_\_ a. Caucasian  
\_\_\_\_ b. Black  
\_\_\_\_ c. Hispanic  
\_\_\_\_ d. Other (please specify) \_\_\_\_\_
8. What is the marital status of the child's mother?  
\_\_\_\_ a. Single, Never Married  
\_\_\_\_ b. Married  
\_\_\_\_ c. Separated  
\_\_\_\_ d. Divorced  
\_\_\_\_ e. Widowed
9. Approximately how much money does your family make in a month?  
\_\_\_\_ a. \$0-\$499/month  
\_\_\_\_ b. \$500-\$999/month  
\_\_\_\_ c. \$1000-\$1499/month  
\_\_\_\_ d. \$1500-\$1999/month  
\_\_\_\_ e. \$2000-\$2499/month  
\_\_\_\_ f. \$2500 or more/month  
\_\_\_\_ g. Don't know
10. How many people live in the home with the child? \_\_\_\_\_



21. Does the father currently attend school?

- ☐ a. Yes  
☐ b. No  
☐ c. Don't know

22. Does this child have any brothers or sisters?

- ☐ a. Yes  
☐ b. No

23. If yes, how many? \_\_\_\_\_

24. If yes, do they live with the child?

- ☐ a. Yes  
☐ b. No

25. Who cares for this child the majority of the time?

- ☐ a. Natural mother  
☐ b. Father  
☐ c. Grandmother  
☐ d. Great grandmother  
☐ e. Other (please specify) \_\_\_\_\_

26. Who regularly lives in the home with this child? (mark as many as apply)

- ☐ a. Mother  
☐ b. Father  
☐ c. Grandmother  
☐ d. Great grandmother  
☐ e. Other people (please state relationship, e.g., aunt, friend, sister)  
\_\_\_\_\_

27. Is this child enrolled in day-care?

- ☐ a. Yes  
☐ b. No

28. Has this child ever attended a preschool program other than day-care?

- ☐ a. Yes  
☐ b. No

29. If yes, when (now?) \_\_\_\_\_

30. If yes, for how long? \_\_\_\_\_

31. Does this child play with other children his or her own age on a regular basis?

- ☐ a. Yes  
☐ b. No

11. Who provides financial support for the family?

- ☐ a. Mother
- ☐ b. Father
- ☐ c. Grandmother
- ☐ d. Other (please specify) \_\_\_\_\_

12. Are you currently receiving Medicaid

- ☐ a. Yes
- ☐ b. No

13. Is the mother currently in school?

- ☐ a. Yes
- ☐ b. No

14. If yes, what grade? \_\_\_\_\_

15. If no, what what the highest grade completed? \_\_\_\_\_

16. Does the mother work?

- ☐ a. Yes
- ☐ b. No

17. Who cares for the child while mother is at work or school?

- ☐ a. Grandmother
- ☐ b. Day-care
- ☐ c. Father
- ☐ d. Other

18. Does the child's father live in the home with the child?

- ☐ a. Yes
- ☐ b. No

19. How often does the father see the child?

- ☐ a. Never
- ☐ b. Daily
- ☐ c. Once a week
- ☐ d. Less than once a month
- ☐ e. Once a month
- ☐ f. Other (please specify) \_\_\_\_\_

20. Does the father work?

- ☐ a. Yes
- ☐ b. No
- ☐ c. Don't know

32. What is the highest grade in school completed by the following people?

a. Mother \_\_\_\_\_

b. Primary Caretaker \_\_\_\_\_

33. What is the relationship of the person completing this form to the child?

\_\_\_\_\_ a. Mother

\_\_\_\_\_ b. Father

\_\_\_\_\_ c. Grandmother

\_\_\_\_\_ d. Other (please specify) \_\_\_\_\_

34. What grade will the child attend in September?

\_\_\_\_\_ a. Pre-Kindergarten

\_\_\_\_\_ b. Kindergarten

\_\_\_\_\_ c. First grade

\_\_\_\_\_ d. Other

\_\_\_\_\_ e. Don't know

35. What was the age of your mother  
when you were born? \_\_\_\_\_

10. Cuantas personas viven en casa con el niño? \_\_\_\_\_

11. Quien es el proveedor financiero de la familia?

- ☐ a. Madre
- ☐ b. Padre
- ☐ c. Abuela
- ☐ d. Otro (favor de especificar) \_\_\_\_\_

12. Actualmente esta recibiendo Medicaid?

- ☐ a. Si
- ☐ b. No

13. Actualmente esta la madre en la escuela?

- ☐ a. Si
- ☐ b. No

14. Si contesto si, en que grado? \_\_\_\_\_

15. Si contesto no, cual fue el grado mas alto completado? \_\_\_\_\_

16. Trabaja la madre?

- ☐ a. Si
- ☐ b. No

17. Quien se hace cargo de el nino cuando la madre esta trabajando o en la escuela?

- ☐ a. Abuela
- ☐ b. Cuarto de niños
- ☐ c. Padre
- ☐ d. Otro

18. Vive el padre del nino en casa con el nino?

- ☐ a. Si
- ☐ b. No

19. Cuantas veces ve el padre al nino?

- ☐ a. Nunca
- ☐ b. Diario
- ☐ c. Una vez por semana
- ☐ d. Menos que una vez por mes
- ☐ e. Una vez por mes
- ☐ f. Otro (favor de especificar) \_\_\_\_\_

20. Trabaja el padre?

- ☐ a. Si
- ☐ b. No
- ☐ c. No se

21. Actualmente esta el padre en la escuela?

- ☐ a. Si
- ☐ b. No
- ☐ c. No se

22. Tiene este niño hermanos o hermanas?

- ☐ a. Si
- ☐ b. No

23. Si contesto si, cuantos? \_\_\_\_\_

24. Si contesto si, viven con este niño?

- ☐ a. Si
- ☐ b. No

25. En la mayoría quien se hace cargo de este niño?

- ☐ a. Madre natural
- ☐ b. Padre
- ☐ c. Abuela
- ☐ d. Bisabuela
- ☐ e. Otro (favor de especificar) \_\_\_\_\_

26. Quien vive de regular en casa con este niño? (anote todos los que sean aplicados)

- ☐ a. Madre
  - ☐ b. Padre
  - ☐ c. Abuela
  - ☐ d. Bisabuela
  - ☐ e. Otras personas (favor de anotar el parentesco, tía, hermana, amiga)
- 

27. Esta este niño registrado en un cuarto de niños?

- ☐ a. Si
- ☐ b. No

28. Alguna vez atendió este niño un programa de preescolar mas que el cuarto de niños?

- ☐ a. Si
- ☐ b. No

29. Si contesto si, cuando (ahora?) \_\_\_\_\_

30. Si contesto si, por cuanto tiempo? \_\_\_\_\_

31. Por lo regular juega este niño con otros niños de su misma edad?

- ☐ a. Si
- ☐ b. No

32. Cual fue el grado mas alto completado por la madre o primaria guardian en la escuela?

a. Madre \_\_\_\_\_

b. Primaria guardian \_\_\_\_\_

33. Cual es el parentesco de la persona dando esta informacion al nino?

\_\_\_\_\_ a. Madre

\_\_\_\_\_ b. Padre

\_\_\_\_\_ c. Abuela

\_\_\_\_\_ d. Otro (favor de especificar) \_\_\_\_\_

34. En que grado va estar el nino en Septiembre?

\_\_\_\_\_ a. Pre-Jardin de infantes

\_\_\_\_\_ b. Jardin de infantes

\_\_\_\_\_ c. Primario

\_\_\_\_\_ d. Otro

\_\_\_\_\_ e. No se

Child's Name \_\_\_\_\_ Birthdate \_\_\_\_\_ Age \_\_\_\_\_

Parent's Name \_\_\_\_\_ Phone No. \_\_\_\_\_

Address \_\_\_\_\_ Date \_\_\_\_\_

HOME SCREENING QUESTIONNAIRE  
Ages 3-6 Years

Please answer all of the following questions about how your child's time is spent and some of the activities of your family. On some questions, you may want to check more than one blank.

FOR  
OFFICE  
USE  
ONLY

1. a) Do you get any magazines in the mail? YES NO  
b) If yes, what kind?  
☐ home and family magazines  
☐ news magazines  
☐ children's magazines  
☐ other
2. Does your child have a toy box or other special place where he/she keeps his/her toys? YES NO
3. How many children's books does your family own?  
☐ 0 to 2  
☐ 3 to 9  
☐ 10 or more
4. How many books do you have besides children's books?  
☐ 0 to 9  
☐ 10 to 20  
☐ more than 20  
 Where do you keep them?  
☐ in boxes (packed)  
☐ on a bookcase  
☐ other (explain \_\_\_\_\_)
5. How often does someone take your child into a grocery store?  
☐ hardly ever; I prefer to go alone  
☐ at least once a month  
☐ at least twice a month  
☐ at least once a week
6. About how many times in the past week did you have to spank your child? \_\_\_\_\_
7. Do you have a T.V.? YES NO  
 About how many hours is the T.V. on each day? \_\_\_\_\_

FOR  
OFFICE  
USE  
ONLY

8. How often does someone get a chance to read stories to your child?  
☐ hardly ever  
☐ at least once a week  
☐ at least 3 times a week  
☐ at least 5 times a week
9. Do you ever sing to your child when he/she is nearby? YES NO
10. Does your child put away his/her toys by himself/herself most of the time? YES NO
11. Is your child allowed to walk or ride his tricycle by himself/herself to the house of a friend or relative? YES NO
12. What do you do with your child's art work?  
☐ let him/her keep it  
☐ put it away  
☐ hang it somewhere in the house  
☐ throw it away shortly after looking at it
13. In the space below write what you might say if your child said, "Look at that big truck".  
 \_\_\_\_\_
14. What do you usually do when a friend is visiting you in your home and your child has nothing to do?  
☐ suggest something for him/her to do  
☐ offer him/her a toy  
☐ give him/her a cookie or something to eat  
☐ put him/her to bed for a nap  
☐ play with him/her



- 2 -

FOR  
OFFICE  
USE  
ONLY

15. How often does your child eat a meal at the table with both mother and father (or other adult male)?  
 \_\_\_\_\_ never  
 \_\_\_\_\_ at least once a month  
 \_\_\_\_\_ at least once a week  
 \_\_\_\_\_ at least twice a week  
 \_\_\_\_\_ at least 3 or 4 times a week  
 \_\_\_\_\_ at least once a day
16. How often does your child spend time playing or "working" with his/her father (or other adult male)?  
 \_\_\_\_\_ at least 4 times a week  
 \_\_\_\_\_ at least twice a week  
 \_\_\_\_\_ at least once a week  
 \_\_\_\_\_ at least once a month  
 \_\_\_\_\_ never
17. How often does someone get a chance to take your child out of the house for an outing (shopping, park, zoo, restaurant museum, car trip, library, etc.)?  
 \_\_\_\_\_ at least 6 times a year  
 \_\_\_\_\_ at least once a month  
 \_\_\_\_\_ at least twice a month  
 \_\_\_\_\_ at least once a week
18. Check the things which you (or other adult or older child) are helping or have helped your child to learn:  
 a. \_\_\_\_\_ colors (like naming colors of things)  
 b. \_\_\_\_\_ alphabet  
 c. \_\_\_\_\_ numbers  
 d. \_\_\_\_\_ understanding of time (like morning-afternoon and now-later)  
 e. \_\_\_\_\_ shapes (like drawing circles or squares)  
 f. \_\_\_\_\_ reading new words or writing his/her name
19. Has your child learned any songs, prayers, or nursery rhymes?  
 YES NO  
 If yes, where did he learn them?  
 \_\_\_\_\_ at day care or preschool  
 \_\_\_\_\_ from a sister or brother  
 \_\_\_\_\_ at church or Sunday School  
 \_\_\_\_\_ from mother or father  
 \_\_\_\_\_ from television
20. It is 30 minutes before dinner and your child is hungry. Most of the time you would:  
 \_\_\_\_\_ give him/her a snack  
 \_\_\_\_\_ have him/her wait for dinner

FOR  
OFFICE  
USE  
ONLY

21. Which items do you sometimes let your child choose for himself herself?  
 \_\_\_\_\_ part of what to have for breakfast or lunch  
 \_\_\_\_\_ favorite foods in the grocery store (fruit, cereal, cookies, etc.)  
 \_\_\_\_\_ the clothes he wants to put on  
 \_\_\_\_\_ none of the above
22. What would you do if your child got angry and hit you?  
 \_\_\_\_\_ hit him/her to show him/her it hurts  
 \_\_\_\_\_ send him/her to his/her room  
 \_\_\_\_\_ spank him/her  
 \_\_\_\_\_ talk to him/her  
 \_\_\_\_\_ ignore it
23. Do you have any pets? YES NO
24. Do you have any plants in your house? YES NO
25. Which of the following best describes your neighborhood:  
 \_\_\_\_\_ it is not as clean as I would like it  
 \_\_\_\_\_ the houses are not well cared for  
 \_\_\_\_\_ it is well cared for  
 \_\_\_\_\_ it is well cared for and attractive
26. How many bedrooms does your house have? \_\_\_\_\_  
 How many people are living in your house? \_\_\_\_\_
27. Do you occasionally try new recipes that you find in the newspaper or in magazines?  
 YES NO
28. Is anyone in the family presently taking a class in school at the college level? YES NO
29. Who buys the groceries for the family?  
 Sometimes Often  
 \_\_\_\_\_ Mother  
 \_\_\_\_\_ Father  
 \_\_\_\_\_ Grandparent  
 \_\_\_\_\_ Older child  
 \_\_\_\_\_ Other

Go on to next page

- 3 -

FOR  
OFFICE  
USE  
ONLY

30. Most of the decisions about how the family income is to be spent are made by

☐ Mother  
☐ Father  
☐ Grandparent  
☐ Friend

31. How often do you and your child get a chance to play together (like pretend games, dolls, house, cars and trucks, or table games)?

☐ hardly ever; too young  
☐ at least once a week  
☐ at least 3-4 times a week  
☐ everyday

32. Do you have any friends or relatives with children about the same age as your child? YES NO

33. When your child asks if he/she can do something you think he/she is too young to do, would you be more likely to say
- ☐ no, I don't want you to  
☐ no  
☐ not now  
☐ No. You're too young now but when you're older you'll be able to do it.

FOR  
OFFICE  
USE  
ONLY

34. What would happen if your child spilled his/her milk?

☐ he/she would be spanked  
☐ he/she would have to clean it up  
☐ someone else would clean it up  
☐ he/she would be sent to his/her room

Please complete the checklist on the next page.

FOR OFFICE USE ONLY

See the HSQ Reference Manual for scoring instructions.

Questions Subtotal \_\_\_\_\_

Toy Checklist Subtotal \_\_\_\_\_

TOTAL HSQ SCORE \_\_\_\_\_

HSQ Results \_\_\_\_\_

Scorer's Name \_\_\_\_\_

-4-

We are interested in finding out what kinds of toys children have in their homes. The items listed below are for children of different ages.

PLEASE CHECK ANY OF THE FOLLOWING THAT YOU HAVE IN YOUR HOME AND THAT YOUR CHILD IS ALLOWED TO PLAY WITH. DO NOT CHECK THE ONES THAT YOU DO NOT HAVE NOW OR ONES THAT ARE BROKEN.

WE DO NOT EXPECT A CHILD TO HAVE ALL OF THESE ITEMS.

- |  |   |
|--|---|
| 1. ___ dolls with clothes or paper dolls             | 25. ___ shape ball or box                 |
| 2. ___ stuffed animals, animal toys or animal books  | 26. ___ crib gym                          |
| 3. ___ dress-up clothes or costumes                  | 27. ___ jumpseat or door swing            |
| 4. ___ tricycle, bicycle or scooter                  | 28. ___ squeeze toys                      |
| 5. ___ stroller or walker                            | 29. ___ rattles                           |
| 6. ___ wagon   | 30. ___ T.V.                              |
| 7. ___ Big Wheel or child-size car                   | 31. ___ Busy Box                          |
| 8. ___ pull or push toy                              | 32. ___ gun                               |
| 9. ___ mobile  | 33. ___ clay or play dough                |
| 10. ___ child-size furniture                         | 34. ___ real or toy musical instruments   |
| 11. ___ high chair                                   | 35. ___ sand box                          |
| 12. ___ playpen                                      | 36. ___ homemade building toys            |
| 13. ___ puzzles - at least three                     | 37. ___ blocks                            |
| 14. ___ alphabet toy, alphabet game or alphabet book | 38. ___ Tinker Toys, Lego or Lincoln Logs |
| 15. ___ number toy, number game or number book       | 39. ___ record player                     |
| 16. ___ coloring book                                | 40. ___ children's records                |
| 17. ___ dot-to-dot or color-by-number book           | 41. ___ chalkboard                        |
| 18. ___ scissors                                     | 42. ___ swings                            |
| 19. ___ pegboard                                     | 43. ___ jungle gym                        |
| 20. ___ toy telephone                                | 44. ___ car, truck or train               |
| 21. ___ plastic snap-together beads                  | 45. ___ measuring cups                    |
| 22. ___ musica. or music box                         | 46. ___ pots and pans                     |
| 23. ___ children's books                             | 47. ___ toy dishes                        |
| 24. ___ ball   | 48. ___ doll carriage                     |
|  | 49. ___ plastic tools and workbench       |
|  | 50. ___ crayons, paints or pencils        |

Nombre del Niño \_\_\_\_\_ Fecha de Nacimiento \_\_\_\_\_ Edad \_\_\_\_\_  
 Nombre de los Padres \_\_\_\_\_ Numero de Telefono \_\_\_\_\_  
 Direccion \_\_\_\_\_ Fecha \_\_\_\_\_

CUESTIONARIO DEL HOGAR  
 De La Edad De 3-6 Años

Por favor conteste todas las cuestiones siguientes acerca de como se pasa el tiempo su niño y algunas de las actividades de su familia. En algunas cuestiones, puede anotar mas de una vez.

1. Recibe algunas revistas en el correo?

- \_\_\_\_ a. Si  
 \_\_\_\_ b. No

Si contesto si, que clase?

- \_\_\_\_ a. Revistas del hogar y familia  
 \_\_\_\_ b. Revistas de noticias  
 \_\_\_\_ c. Revistas de niños  
 \_\_\_\_ d. Otro

2. Tiene su niño una caja de juguetes o otro lugar especial donde el/ella guarda sus juguetes?

- \_\_\_\_ a. Si  
 \_\_\_\_ b. No

3. De cuantos libros de niños es dueño su familia?

- \_\_\_\_ a. 0 to 2  
 \_\_\_\_ b. 3 to 9  
 \_\_\_\_ c. 10 o mas

4. Cuantos libros tiene ademas de libros de niños?

- \_\_\_\_ a. 0 to 9  
 \_\_\_\_ b. 10 to 20  
 \_\_\_\_ c. mas de 20

Donde guarda los libros?

- \_\_\_\_ a. En cajas (empacados)  
 \_\_\_\_ b. En una estanteria para libros  
 \_\_\_\_ c. Otro (favor de explicar) \_\_\_\_\_

5. Cuantas veces lleva alguien a su niño a la tienda de comestibles?

- \_\_\_\_ a. Casi nunca, prefiero ir sola  
 \_\_\_\_ b. Por lo menos una vez por mes  
 \_\_\_\_ c. Por lo menos dos veces por mes  
 \_\_\_\_ d. Por lo menos una vez por semana

6. Como cuantas veces en la semana que paso tuvo que dar una zurra a su nino?\_\_\_\_\_

7. Tiene una television?

- \_\_\_\_\_a. Si
- \_\_\_\_\_b. No

Como cuantas horas por dia existe la television puesta?\_\_\_\_\_

8. Cuantas veces tiene alguien la oportunidad de leer un libro de cuentos a su nino?

- \_\_\_\_\_a. Casi nunca
- \_\_\_\_\_b. Por lo menos una vez por semana
- \_\_\_\_\_c. Por lo menos 3 veces por semana
- \_\_\_\_\_d. Por lo menos 5 veces por semana

9. Le canta usted a su nino cuando el/ella esta cercano?

- \_\_\_\_\_a. Si
- \_\_\_\_\_b. No

10. Recoge su nino sus juguetes el solo/ella sola mas del tiempo?

- \_\_\_\_\_a. Si
- \_\_\_\_\_b. No

11. Permite usted a su nino que camine o de un paseo en su triciclo el solo/ella sola a casa de un amigo o pariente?

- \_\_\_\_\_a. Si
- \_\_\_\_\_b. No

12. Que es lo que usted hace con el trabajo de arte de su nino?

- \_\_\_\_\_a. Deja que el/ella lo guarde
- \_\_\_\_\_b. Usted lo guarda
- \_\_\_\_\_c. Lo fija e algun lugar en casa
- \_\_\_\_\_d. Lo tira despues de mirarlo

13. En el espacio abajo escriba lo que usted pudiera decir si su nino dijera,  
"Mira la troca grande."

\_\_\_\_\_

14. Como de costumbre que es lo que usted hace cuando un amigo/a esta de visita en su hogar y su nino no tiene nada que hacer?

- \_\_\_\_\_a. Sugere algo para que el/ella haga
- \_\_\_\_\_b. Le ofrece un juguete
- \_\_\_\_\_c. Le da una galletita o algo para comer
- \_\_\_\_\_d. Lo/la pone a tomar una siesta
- \_\_\_\_\_e. Juega con el/ella

15. Cuantas veces come su nino una comida en la mesa con ambos padre y madre (o otro varon adulto)?
- ☐ a. Nunca
  - ☐ b. Por lo menos una vez por mes
  - ☐ c. Por lo menos una vez por semana
  - ☐ d. Por lo menos dos veces por semana
  - ☐ e. Por lo menos 3 a 4 veces por semana
  - ☐ f. Por lo menos una vez por dia
16. Cuantas veces pasa su nino su tiempo jugando o trabajando con su padre (o otro varon adulto)?
- ☐ a. Por lo menos 4 veces por semana
  - ☐ b. Por lo menos dos veces por semana
  - ☐ c. Por lo menos una vez por semana
  - ☐ d. Por lo menos una vez por mes
  - ☐ e. Nunca
17. Cuantas veces tiene alguien la oportunidad de sacar su nino de casa para una excursion (ir de compras, parque, zoo, restaurante, museo, viaje en carro, biblioteca, etc.)?
- ☐ a. Por lo menos 6 veces por año
  - ☐ b. Por lo menos una vez por mes
  - ☐ c. Por lo menos dos veces por mes
  - ☐ d. Por lo menos una vez por semana
18. Anote las cosas en que usted (o otro adulto o/nino mayor) estan ayudando o tuvo ayudando a su mino aprender:
- ☐ a. Colores (como nombrando colores de cosas)
  - ☐ b. Alfabeto
  - ☐ c. Numeros
  - ☐ d. Entendiendo el tiempo (como la mañana-la tarde y ahora-mas tarde)
  - ☐ e. Formas (como dibujando circulos o cuadros)
  - ☐ f. Leyendo palabras nuevas o escribiendo su/nombre
19. Aprendio su nino algunas canciones, oraciones, o poesia infantil?
- ☐ a. Si
  - ☐ b. No
- Si contesto si, en donde las aprendio?
- ☐ a. En un cuarto de niños o preescolar
  - ☐ b. De un hermano o hermana
  - ☐ c. En la iglesia o Escuela Dominical
  - ☐ d. De su madre o padre
  - ☐ e. De la television
20. Son 30 minutos antes de la cena y su mino tiene hambre. Mas del tiempo usted:
- ☐ a. Le da un bocado
  - ☐ b. Lo hace que espere a la cena

21. Cual articulo deja usted elegir a su nino el/ella solo/sola?

- ☐ a. Parte de lo que va a tener para el desayuno o almuerzo
- ☐ b. Comida favorita en la tienda de comestibles (fruta, cereal, galletitas, etc.)
- ☐ c. La ropa que el/ella se quiere poner
- ☐ d. Nada de lo de arriba

22. Que hisiera si su nino estaba enojado por algo y le pegara a usted?

- ☐ a. Le golpearia a el/ella para enseñarle que era dolor
- ☐ b. Lo/la mandaria a su habitacion
- ☐ c. Le daria una zurra
- ☐ d. Hablaria con el/ella
- ☐ e. No le hiciera caso

23. Tiene un animal domestico?

- ☐ a. Si
- ☐ b. No

24. Tiene plantas en su casa?

- ☐ a. Si
- ☐ b. No

25. Cual de lo siguiente describe mejor a su barrio?

- ☐ a. No esta tan limpio como me gustaria
- ☐ b. Las casas no estan cuidadas
- ☐ c. Esta bien cuidado
- ☐ d. Esta bien cuidado y atractivo

26. Cuantas alcobas tiene su casa? \_\_\_\_\_

Cuanta gente vive en su casa? \_\_\_\_\_

27. Ocasionalmente prueba nuevas recetas que se encuentra en el periodico o en revistas?

- ☐ a. Si
- ☐ b. No

28. A lo presente esta alguien de la familia tomando un clase en la escuela al nivel de colegio?

- ☐ a. Si
- ☐ b. No

29. Quien compra la comida para la familia?

Alguna vez	Siempre	
<input type="checkbox"/>	<input type="checkbox"/>	a. Madre
<input type="checkbox"/>	<input type="checkbox"/>	b. Padre
<input type="checkbox"/>	<input type="checkbox"/>	c. Abuelo
<input type="checkbox"/>	<input type="checkbox"/>	d. Nino mayor
<input type="checkbox"/>	<input type="checkbox"/>	e. Otro

30. La mayoría de decisiones acerca de como se gasta la entrada del dinero familiar son por

☐ a. Madre  
☐ b. Padre  
☐ c. Abuelo  
☐ d. Otro

31. Cuantas veces tiene la oportunidad usted y su nino de jugar juntos (como juegos de pretender, muñecas, a casa, carros y trocas, o juegos de mesa)?

☐ a. Casi nunca; esta muy chico  
☐ b. Por lo menos una vez a la semana  
☐ c. Por lo menos 3-4 veces por semana  
☐ d. Todos los dias

32. Tiene usted amigos o parientes con ninos casi de la misma edad de su nino?

☐ a. Si  
☐ b. No

33. Que dijera usted si su nino le preguntara hacer algo que usted pensaba que estaba muy pequeño

☐ a. No, yo no quiero  
☐ b. No  
☐ c. Ahorita no  
☐ d. No. Estas muy pequeño ahorita, pero cuando estes mas mayor si podras hacerlo

34. Que pasaria si su nino voltiba un baso de leche?

☐ a. Le daria una zurra  
☐ b. El/ella lo tendria que limpiar  
☐ c. Alguien mas lo limpiria  
☐ d. Lo/la mandaria a su habitacion

Por favor complete la lista de control en la siguiente pagina.



Estamos interesados en que clase de juguetes tienen los niños en casa. Los artículos en la lista son para niños de edades diferentes.

POR FAVOR ANOTE CUALQUIER QUE USTED TENGA EN CASA Y QUE SU NIÑO TIENE PERMISO DE JUGAR CON EL. NO ANOTE LOS QUE USTED NO TIENE AHORITA O LOS QUE ESTÁN QUEBRADOS.

- |   |  |
|---|--|
| 1. ____ muñecas con ropa o muñecas de papel                           | 25. ____ pelota de figura o caja                   |
| 2. ____ animales rellenos, juguetes de animal o libros de animales    | 26. ____ gimnasio de cuna                          |
| 3. ____ ropa para vestirse de etiqueta o disfraz                      | 27. ____ cilla de saltar o puerta de columpio      |
| 4. ____ triciclo, bicicleta o monopatín                               | 28. ____ juguete de apretar                        |
| 5. ____ paseante, andador   | 29. ____ sonajero                                  |
| 6. ____ vagón   | 30. ____ televisión                                |
| 7. ____ Triciclo con ruedas grandes o carro de niños                  | 31. ____ caja ocupadora                            |
| 8. ____ juguete que puede tirar o empujar                             | 32. ____ pistola                                   |
| 9. ____ móvil de infante  | 33. ____ arcilla o masa de jugar                   |
| 10. ____ muebles de niños   | 34. ____ instrumentos musicales de jugar           |
| 11. ____ silla de infante   | 35. ____ caja de arena                             |
| 12. ____ corralito para niños   | 36. ____ juguetes hechos en casa                   |
| 13. ____ por lo menos tres rompecabezas                               | 37. ____ bloques                                   |
| 14. ____ juego del alfabeto o libro del alfabeto, juguete de alfabeto | 38. ____ juguetes de Tinker, Lego, o Lincoln logs  |
| 15. ____ juguete de números, juego de números o libro de números      | 39. ____ tocadiscos                                |
| 16. ____ libro para colorear  | 40. ____ discos de niños                           |
| 17. ____ libro de colorear por número o de punto-a-punto              | 41. ____ pizarrón                                  |
| 18. ____ tijeras  | 42. ____ columpios                                 |
| 19. ____ tabla de madera prensada perforada                           | 43. ____ gimnasio de jungla                        |
| 20. ____ un teléfono de juguete                                       | 44. ____ carro, troca, o camión                    |
| 21. ____ cuentas de plástico  | 45. ____ taza de medida                            |
| 22. ____ música o caja de música                                      | 46. ____ ollas y sartenes                          |
| 23. ____ libros para niños  | 47. ____ platos de jugar                           |
| 24. ____ pelota   | 48. ____ coche de muñeca                           |
|   | 49. ____ herramienta de plástico y mesa de trabajo |
|   | 50. ____ pastel, pintura o lápiz                   |

**APPENDIX D**  
**QUESTIONNAIRE FOR CHILD**

Consent of Child to Act as Subject for Research

VERBAL EXPLANATION (To be Read to Child)

My name is \_\_\_\_\_. I am a nurse. I am doing a research project to see if children who have mothers between the ages of 16 and 22 are the same as other children with older mothers.

If you say that you would like to help with the study I will ask you to take a test that will take 20 minutes to complete. On the test you will draw a picture and then answer some questions.

Your mother (parent) will fill out a form for me about your home and family.

Do you have any questions?

This study will help us learn more about children.

This is the only project like this that might be helpful to you.

I will not use your name when I write a paper about the project.

If you do not want to take the test or decide that you do not want to use your tests, you can tell me that you do not want to be in the study. No one will be mad at you if you decide you do not want to be in the study.

If you should be hurt in any way during the study there will be no treatment or payment to your family, but first aid will be given.

Do you have any questions?

If you would like to do this, put your name on the line below (or X if cannot write name).

\_\_\_\_\_  
Child

\_\_\_\_\_  
Date

\_\_\_\_\_  
Investigator

\_\_\_\_\_  
Date

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Date

## Consentir del Nino para Actuar Como Sujeto de Investigacion

## EXPLICACION VERBAL (leerse esto al nino)

Mi nombre es \_\_\_\_\_. You soy una enfermera. You estoy haciendo un proyecto de investigacion para ver si ninos que tienen madres entremedio de 16 a 22 anos de edad son lo mismo que otros ninos con madres mayores de edad.

Si tu deces que te gustaria ayudar con el estudio yo te preguntaria que tomaras un examen corto. En el examen tu vas a dibujar un retrato y despues contestarias unas preguntas. El examen corto tomara 20 minutos.

Tu madre (padre o madre) me va llenar un formulario acerca de tu hogar y familia.

Tienes alguna cuestion?

Estos nos va ayudar aprender mas acerca de ninos.

Este es el unico proyecto como este que pueda ser util para ti.

No voy a usar tu nombre cuando yo escriba un papel acerca del proyecto.

Si tu quieres tomar el examen o decides que tu no quieres usar tus exámenes me puedes decir que tu no quieres participar. Nadie se enojara con tu por no quiere tomar parte en el examen.

Si te lastimas en alguna manera durante el estudio no habra tratamiento o pago para tu familia, pero primer auxilio se le dara,

Tienes alguna cuestion?

Si te gustaria hacer esto escribe tu nombre en la linea abajo (o una X si no puede escribir su nombre).

\_\_\_\_\_  
Nino

\_\_\_\_\_  
Fecha

\_\_\_\_\_  
Investigador

\_\_\_\_\_  
Fecha

\_\_\_\_\_  
Testigo

\_\_\_\_\_  
Fecha

# ABC INVENTORY

To Determine Kindergarten & School Readiness  
By NORMAND ADAIR and GEORGE BLESCH

Name \_\_\_\_\_ Sex \_\_\_\_\_ Date \_\_\_\_\_  
yr. mo. day  
Address \_\_\_\_\_ Born \_\_\_\_\_  
yr. mo. day  
School \_\_\_\_\_ Dist. \_\_\_\_\_ Age \_\_\_\_\_  
yrs. mos.

I _____	Total
II _____	Readiness
III _____	Age
IV _____	Yrs. Mos.

Total	R-A	Total	R-A	Total	R-A	Total	R-A	Total	R-A	Total	R-A
RawSc.	Yrs. Mos.	RawSc.	Yrs. Mos.	RawSc.	Yrs. Mos.	RawSc.	Yrs. Mos.	RawSc.	Yrs. Mos.	RawSc.	Yrs. Mos.
25-29	3-6	45-47	4-1	65-66	4-8	82	5-2	94	5-8	106-108	6-2
28-30	3-7	48-50	4-2	67-69	4-9	83-84	5-3	95-96	5-9	109-110	6-3
31-33	3-8	51-54	4-3	70-71	4-10	85-86	5-4	97-98	5-10	111-114	6-4
34-36	3-9	55-57	4-4	72-77	4-11	87-88	5-5	99-100	5-11	115-118	6-5
37-38	3-10	58-60	4-5	78-79	5-0	89-90	5-6	101-103	6-0	119-120	6-6
39-41	3-11	61-62	4-6	80-81	5-1	91-93	5-7	104-105	6-1	121-122	6-7
42-44	4-0	63-64	4-7								

## SECTION I

### "Draw-Man"

Score four points for any of the following items present:

\_\_\_\_\_

head

legs

arms

body

neck

eyes

nose

mouth

hair

feet

clothing (see manual)

fingers

hand

thumb

ear

eyebrow

other

Total \_\_\_\_\_

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NORMAND ADAIR AND GEORGE BLESCH  
MUSKEGON, MICHIGAN

## SECTION II

Score two points for any a, b or c items answered correctly. 32 points possible.

Points

1. What has:

- (a) wings. (*Any winged insect, bird or machine.*)  
(b) 4 wheels. (*Any 4-wheel object or device.*)

2. Tell me the color of:

- (a) grass (*green*) (b) an apple (*red*)  
(c) a banana (*yellow*)

3. Which is larger:

- (a) a dog or a cat (b) cow or a pig (c) man or a boy

4. What time of the year:

- (a) do we swim (*summer*) (b) does it snow (*winter*)

5. Which is faster:

- (a) a car or a horse (b) an airplane or choo choo train

6. How many wheels does:

- (a) a motor bike have. (*Two*)  
(b) a wheelbarrow have. (*One*)

7. When is:

- (a) The 4th of July (b) Christmas  
(Suggest summer or winter for "a", no help for "b")

..... Total

## SECTION III

Score two points for each of the following items answered correctly. 12 points possible.

1. What is ice when it melts? (*Water*)

2. What makes a cloudy day bright? (*Sun*)

3. If today is Sunday, what is tomorrow?

4. What makes day warmer than night? (*Sun*)

5. How do we hear? (*With our ears*)

6. What are your eyes for? (*To see or look*)

..... Total

## SECTION IV

Score eight points for each item completed successfully. 32 points possible.

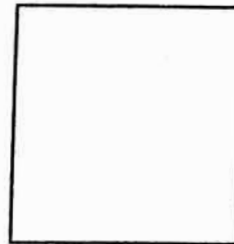
1. Counting 4 squares (above).

2. Fold a paper triangle.

3. Repeat 4 digits (one success in three trials).  
(a) 3725 (b) 4531 (c) 8694

4. Copy a square (one success in 2 trials).

..... Total





## SECCION II

Apunte dos puntos por cualquier a,b o c articulos contestados correcto. 32 puntos possible.

Puntos

- \_\_\_\_\_ 1. Que tiene:  
(a) alas. (Cualquier insecto con alas, pajar o maguina.) (b) 4 ruedas.  
(Cualquier objeto o aparato con 4-ruedas.)
- \_\_\_\_\_ 2. Dime el color de:  
(a) la hierba (verde) (b) una manzana (roja) (c) un platano (amarillo)
- \_\_\_\_\_ 3. Cual es mas grande:  
(a) un perro o un gato (b) una vaca o un puerco (c) un hombre o un niño
- \_\_\_\_\_ 4. Que tiempo del año:  
(a) vamos a nadar (verano)  
(b) hay nevada (invierno)
- \_\_\_\_\_ 5. Cual es mas rapido:  
(a) un carro o un caballo  
(b) un avion o un tren
- \_\_\_\_\_ 6. Cuantas ruedas tiene:  
(a) una motocicleta liviana (dos)  
(b) una carretilla (una)
- \_\_\_\_\_ 7. Cuando es:  
(a) El 4 de Julio (b) Navidad (puede sugerir el verano o invierno por "a", minguna ayuda para "b")
- \_\_\_\_\_ Total

## SECCION III

Apunte dos puntos por cada siguiente articulo contestado correcto. 12 puntos possible.

- \_\_\_\_\_ 1. Que es el hielo cuando se derite? (Agua)
- \_\_\_\_\_ 2. Que es lo que hace un dia nublado resplandecer? (Sol)
- \_\_\_\_\_ 3. Si hoy es domingo que dia es mañana?
- \_\_\_\_\_ 4. Que es lo que hace al dia mas caliente que la noche? (Sol)
- \_\_\_\_\_ 5. Como podemos oir? (Con nuestras orejas)
- \_\_\_\_\_ 6. Para que son sus ojos? (Para ver)
- \_\_\_\_\_ Total



## SECCION IV

Apunte ocho puntos por cada articulo cumplido de exito. 32 puntos possible.

- \_\_\_\_\_ 1. Cuentando 4 cuardros (encima).
- \_\_\_\_\_ 2. Dobla un papel en triangulo.
- \_\_\_\_\_ 3. Repite 4 digitos (un exito en tres pruebas). (a) 3725  
(b) 4531 (c) 8694
- \_\_\_\_\_ 4. Copia un cuadro (un exito en 2 pruebas).
- \_\_\_\_\_ Total





**APPENDIX E**  
**AUTHOR'S PERMISSION TO USE INSTRUMENT**

## **Educational Studies And Development**

1357 FOREST PARK ROAD  
MUSKOGON, MICHIGAN 49441  
AREA CODE 616 PHONE 780-2053

October 26, 1987

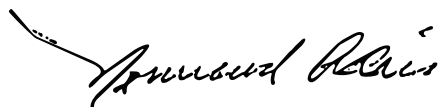
Mary D. Garcia RN MSN  
Doctorial Student Texas Woman's University  
Houston, Texas

Dear Miss Garcia:

We are pleased to know that you are using the ABC Inventory as part of your research study with young children.

Permission is granted by the authors to use the ABC Inventory for Kindergarten Readiness.

Yours truly,

A handwritten signature in cursive script, reading "Normand Adair".

Normand Adair  
Author

**DENVER DEVELOPMENTAL MATERIALS, INC.**

P.O. Box 6919  
Denver, Colorado 80206-0919  
(303) 355-4729

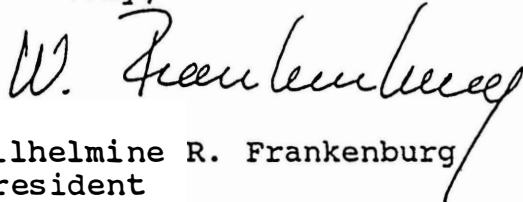
August 28, 1991

Ms. Mary Garcia, RN MSN  
5006 Wingfoot  
Corpus Christi, TX 78413

Dear Ms. Garcia,

You do not need our permission to use the HSQ. The only time our permission is needed is when reproduction of the copyrighted material is requested. Such permission we grant only for referred journals and books.

Sincerely,



Wilhelmine R. Frankenburg  
President

WRF:taz

SUSAN COOLEY PLUMB  
2920 DEL MONTE  
HOUSTON, TEXAS 77019

8/26/91

Mary Garcia has my permission  
to use the "Family Information  
Questionnaire" in her research  
study.

Thank you,

Susan Plumb PhD, RN

# CURRICULUM VITAE

Mary Dolores Campos Garcia, R.N., C.N.A., C.S., M.S.N.

Present Title: Assistant Professor  
Del Mar College  
Ayers & Baldwin  
Corpus Christi, Texas

Residence Address: 5006 Wingfoot  
Corpus Christi, Texas 78413  
512/991-4088

Office Address: Del Mar College RN Dept.  
Ayers & Baldwin  
Corpus Christi, Texas 78404  
512/886-1470

Date of Birth: March 30, 1949

Citizenship: U.S.A.

Marital Status: Married to John David Garcia

Children: Frank Garcia, age 21  
Melissa Garcia, age 15  
Ray Garcia, age 13

Licensure: RN - State of Texas  
Certified Nurse Administration  
Med-Surg Clinical Specialist

Undergraduate Education:

1967 Roy Miller High School  
1969 A.D. Nursing, Del Mar College  
1977 B.S. Nursing, Corpus Christi  
State University

Graduate Education:

1985 M.S. Nursing, Corpus Christi  
State University  
1986 - Present Texas Woman's University  
Doctoral Candidate in Nursing  
September, 1988

Professional Experience:

1985 - Present Assistant Professor Nursing  
Del Mar College Associate Degree  
Nursing Program  
Corpus Christi, Texas

1986 - Present	Staff Nurse Memorial Medical Center Corpus Christi, Texas 78405
1986 - 1990	Staff Nurse Humana Hospital Corpus Christi, Texas
1970 - 1985	Memorial Medical Center 2905 Hospital Blvd. Corpus Christi, Texas 78405
1980 - 1985	Associate Director of Nursing Practice
1979 - 1980	Supervisor of Perinatal and Emergency Departments
1977 - 1979	Evening Supervisor
1976 - 1977	Assistant Headnurse, Emergency Department
1970 - 1978	Staff Nurse in the Emergency Department
1969 - 1970	Staff Nurse on Medical-Surgical
1970 - 1970	Staff Nurse Medical-Surgical Unit San Francisco General Hospital

Personal Involvement:

American Nursing Association  
Texas Nursing Association  
Sigma Theta Tau  
Texas Faculty Association  
American Heart Association  
Member of Committee on Aids

Services on Del Mar College Committees:

1989 - Present	Member Faculty Council
1990 -	Secretary
1989 - Present	Member Insurance Committee
1986 - 1989	Member Recruitment and Retention Committee
1989 - 1991	Furman Lectureship Committee
	Member
	1991 - Co-Chair

1990 - Present

Member of Mayor's Commission  
Committee on Aids Education

**Services to Community:**

1989 - Present

Advisory Committee  
Corpus Christi School District

1986 - 1990

American Heart Association  
Instructor Trainer

**Publications:**

Del Mar Foghorn Newspaper

Series of Articles on Health Promotion Nursing