

MONETARY CONCEPTS OF BLACK PRESCHOOL CHILDREN
FROM LOW SOCIO-ECONOMIC FAMILIES

By

LYNDA WAYNE HENLEY MASTERS

Bachelor of Christian Education

Presbyterian School of Christian Education

Richmond, Virginia

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Thesis Approved:

Josephine Koffer

Thesis Adviser
Mich Stinnett

D. Durham

Dean of the Graduate College

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CHAPTER I

THE PROBLEM AND ITS IMPORTANCE

This study explored the monetary concepts of low socio-economic black children. McCarty (1967) developed four tasks to identify the monetary concepts of five-year old white children; West (1971) validated McCarty's tasks for three- and four-year old white children.

Evidence suggests the possibilities: (1) that home environment is in part determined by race, and (2) that home environment may influence a child's ability to form concepts. Moynihan (U. S. Department of Labor, 1969) reported that the black family is deteriorating due to marriage dissolutions, prevalence of female-headed households, high rate of illegitimate births, and increasing dependency on welfare for financial support. Jensen (1966, p. 236) states that "children from different social backgrounds will differ in their perceptual abilities." Gray (1966, p. 22) reinforces Jensen's statement with her explanation regarding perceptual deficiencies.

The culturally deprived child will usually exhibit two kinds of deficiencies in the area of perception . . . , he will often be unable to discriminate between two objects or events that are highly similar . . . the range of different objects and events will tend to be rather restricted.

According to Gray (1966, pp. 24-25), it is not easy "to know where percepts leave off and where concepts begin . . . we may define the learning of concepts as the acquiring or using of a common response or label for two or more completely identical objects or stimuli."

The presentation of monetary tasks as part of the child's learning experience seems to have merit as a method of developing sound mathematical concepts. It should be helpful to educators and parents to be aware of the existing monetary concepts of black children from low socio-economic backgrounds as reflected in their performance on the four specific monetary tasks. These findings should aid in the development of a mathematical curriculum based on measured money concepts of children.

The Concept of the Culturally Disadvantaged

Due to the confusion surrounding such terms as "disadvantaged" and "culturally deprived," the term low socio-economic was used in this study. Jensen (1968, p. 31) describes the problem and proposes the use of a new term.

Thus far I have used the term 'culturally disadvantaged' only in quotation marks. The reason for the quotation marks is that I have been using the term in the poorly defined popular sense. The term, regarded by many as an outright misnomer, is so general and carries so many implicit connotations as to be practically useless for discussion of the specific problems that need to be approached through analysis and research. There would seem to be a legitimate place for the term, however, if it were clearly distinguished from more general terms such as 'the poor,' 'the uneducated,' 'slum dwellers,' 'impoverished,' 'low socioeconomic status' and the like. Since 'culturally disadvantaged' has come to be more or less synonymous with these other unprecise terms and carries most of their connotations, however, I will propose a new term for the purpose of clarity in the discussion that follows: the environmentally depressed.

For this study, a new term need not be employed, but an easily understood expression was required. Thus, the simple term of low socio-economic was used. In order to provide further clarity, the Office of Economic Opportunity poverty guidelines were used to indicate a low

socio-economic status (Appendix A).

The Significance of Low Socio-Economic Status

The significance of low socio-economic status is indicated by Rees (1968) who cites evidence for the possibility of inherited disadvantage due to prenatal environment of the mother who is culturally deprived (of which low socio-economic status is considered a determining factor). Deutsch, Katz, and Jensen (1968) propose that many black children develop in families which show strong deprivation as measured by the Deprivation Index (Appendix B) and also have the disadvantage of low socio-economic status.

Richmond (1971, p. 111) reported that: "It is a continuing challenge to educators to be able to assess the culturally handicapped child's ability in order to determine how the educational experience can be most profitable to him." Barksdale (1970), Thomas and Yamamoto (1971), Zirkel (1971), and Hess (1966) agree that children from culturally deprived environments have greater difficulty in school adjustment and academic performance.

Reissman (1962) indicates that children who develop in a culturally deprived, or what he describes as an anti-intellectual atmosphere, need to be shown that theories taught in school have practical merit. The writer presupposed that this study would provide better understanding of the young black child's ability to conceptualize mathematically in the use of money, and hoped that some indication of the practicality of using money to teach mathematical concepts would be revealed.

The Need to Study Monetary Concepts

Gruenberg (1965) reports that at an early age, children, through observation of adults, become aware of the importance of money. McNeal (1964) found that children are actively engaged in consumer practices by age three or four. Alexander (1964) indicated that even though preschool children do not, as a rule, earn money of their own, they are interested in learning about money. She reported that preschool children, through their limited use of money, begin to understand some of the principles of money management. Gruenberg and Gruenberg (1937) noted that early experience with money aids the child not only in the use of money, but also provides a beginning understanding of relative values through the process of choosing and deciding how to spend money. They reported that opportunity to experience success and mistakes with small amounts of money at an early age would promote a constructive attitude toward the use of money which would carry over into adulthood. Prevey (1945) also found that the money management practices and the related values of adults were influenced by their early experiences with money.

Although much has been written about the source of money and the consumer practices of older school children, West (1971) recognized a lack of material to help parents and teachers of preschool children in relation to their ability to understand monetary concepts and consumer problems. The President's Committee on Consumer Interests (Knauer, 1970) reported that consumer education should begin in the preschool years, and McCarty (1967, p. 30) recommended that "The preschool child's experience with money be studied . . . in order to determine what

experiences are effective in developing realistic money concepts."

The Purposes of the Study

The purposes of this study were:

1. to examine the monetary concepts of three-, four-, and five-year old black children from low socio-economic families through the use of McCarty's (1967) monetary tasks, and
2. to determine if there exists a difference in the monetary concepts of black children from low socio-economic families and white children from both urban and rural environments.

Hypotheses

The hypotheses tested were:

1. There is no significant difference in responses to monetary concept tasks among black children from low socio-economic families according to age.
2. There is no significant difference in responses to monetary concept tasks between three- and four-year old black children from low socio-economic families and three- and four-year old white children from middle-class families.
3. There is no significant difference in responses to monetary concept tasks among five-year old children from black low socio-economic families, white urban families, and white rural families.

CHAPTER II

RELATED LITERATURE

In order to gain insight into the factors influencing the formation of monetary concepts of black children from low socio-economic families, the literature is categorized as follows: (1) The Black Family, (2) Influence of Home Environment on Concept Development, and (3) Money Concepts and Experiences of Young Children.

The Black Family

Staples (1971) suggests that much of the difficulty in evaluating the black family situation lies in the middle-class value orientation which may distort the efforts of researchers. Herzog (1967, p. 23) agreed with Staples when she wrote:

Much has been said of late--and often with great heat--about the Negro family. Despite prevailing consensus on a number of points, controversy has been generated with regard to other points because one man's fact is another man's fiction.

One-Parent Homes

Moynihan (U. S. Department of Labor, 1969, p. 47) refers to a "tangle of pathology . . . capable of perpetuating itself without assistance from the white world." He considered this cycle to be the heart of the breakdown of the black family, and refers to the poverty condition of the family due to the father's inability to provide and his

subsequent absence from the home.

Billingsley (1969) reported that black families in communities of any size are headed by men and therefore meet that test of American stability. He does not consider poverty to be a description of a "crumbling" family. Herzog (1967, pp. 25-26) wrote that:

Census figures do show much higher rates of fatherless families for Negroes than for whites The figures do not, however, document a rapid increase in those rates during recent years. On the contrary, and this is a point curiously slighted by commentators on both sides of the argument--they show a gradual increase from 1949 (19 percent) to 1959 (24 percent). Moreover, from 1959 to 1965 the proportion of female-headed families among blacks showed virtually no net rise....Thus, an accurate description would be that during the past 25 years there has been a gradual, wavering rise, but not an acute increase in the overall proportion of broken homes among Negroes.

As noted above, many black families are, according to census figures, headed by females. Staples (1971) reported that studies based on census figures may be misleading, and indicated that in many ghetto families a male head would not be reported. The matriarchal status assumed for many black families is possibly not accurate. Herzog and Lewis (1970) reported that the matriarchal label for Negro families is inaccurate because the woman-headed family is not accepted by low-income blacks any more than it is by society at large.

Family Breakdown

Billingsley (1969, p. 564) wrote that the "working poor . . . non-working poor . . . account for nearly half of all black families and nearly one-quarter of all poor families in the United States." However, he maintains that poverty may not necessarily be correlated with family breakdown. Moynihan, as interpreted by Staples (1971, p. 123),

indicates that "the fabric of black society is dependent on the malfunctioning of individual family units in that society." This thesis of family breakdown is, according to Staples, not documented scientifically.

Carson (1969) supported Billingsley's position concerning the low socio-economic black. After living with blacks in the south, she found that they exhibit an amazing ability to survive and maintain stability in the face of abject poverty and overwhelming odds. She wrote (1969, p. 51) that "Love and family solidarity sometimes survive In this neighborhood, with all its bitter poverty, the statistics show that only one-third are broken homes."

Economic Status and Child Rearing Practices

Evidence shows that families of any race or ethnic background exhibit patterns of child care which are commensurate with economic levels. Pavenstedt (1970) found that lower-lower-class families demonstrate much less adequate child rearing practices than upper-lower-class families. In an earlier study, Jeffers (1967) found three patterns of income level and correlating child rearing practices among the blacks with whom she studied and lived. The child rearing practices of the lower-class group were far less adequate than child rearing practices of the upper-level group.

Billingsley (1969, pp. 567-568) noted that low income black parents give their children better care than is usually recognized, and that "it is not generally appreciated, for example, that child neglect and abuse are much more common in white families than in black families." Herzog and Lewis (1970, pp. 3497-6) advise that "our habit of reporting

national statistics by color rather than by socio-economic level often results in attributing to differences to ethnic background that are in fact class differences." In his summary of the sociology of the black family, Staples (1971, p. 135) wrote that "it can be said that in the understanding of black family life there remain questions to be answered and answers to be questioned."

Influence of Home Environment on Concept Development

Home environment and child rearing practices apparently do vary according to income level (Besner, 1967). The literature reveals that children from disadvantaged backgrounds, which may be interpreted as low income family backgrounds, are believed to show some similarity in inadequacy of concept development.

One problem which lower-class children are considered to display in the formation of concepts is a non-verbal and concrete approach (Rosenhan, 1967). Reissman (1962) included in his description of the culturally deprived individual that he learns more readily through a concrete approach. Since concepts are generally abstract, concrete-mindedness, prompted in the home environment of the low socio-economic child, might be considered to be deleterious to easy formation of concepts. Regarding the black family in particular, writers agreed that the home environment of low socio-economic black children is not conducive to facile understanding of abstract concepts (Musgrove, 1971-1972; Long and Henderson, 1971; Rohrer, 1971; and Musgrove, 1972).

Deutsch (1967, p. 45) wrote that a child of any race or background "who has been deprived of a substantial portion of the variety of

stimuli which he is maturationally capable of responding to is likely to be deficient in the equipment required for learning." Baumrind (1967, p. 45), in her consideration of middle-class children, found that "the child's inherent cognitive potential can be fully developed by a rich complex environment or inhibited by inadequate and poorly timed stimulation." One reason mentioned for inhibition of learning ability is lack of attention given to children in lower-class families (Jeffers, 1967; Pavenstedt, 1970). Lack of attention is related to learning ability through the development of self-concept. Jeffers (1967) and Pavenstedt (1970) indicate that a feeling of low self-esteem may be detrimental to a child's learning ability. McCarty and Yancey (1970) report that one should not expect a child to display a poor self concept just because he is black; this is more accurately the characteristic of class level than race.

Other factors which may result in inhibition of learning ability are a restricted range of different objects in the home and an insufficient variety of experiences (Gray, 1966; Deutsch, 1967). Paucity of adult reinforcement may also be considered a factor which inhibits learning ability. Adult reinforcement in the home should raise the level of motivation for learning, thereby increasing perceptual abilities and formation of concepts. Black (1965, p. 468) indicates that "culturally disadvantaged children have had little experience in receiving approval for success in a task." As a result, the child is unable to respond to praise as a motivational factor in learning. Deutsch (1967) includes acceptance of adult reinforcement as part of the necessary components for learning in which the disadvantaged child is deficient.

Rosenhan (1967, pp. 43-44) however would indicate that the need for adult reinforcement is a commonly accepted idea for which there is little basis.

It has been said that middle-class children respond strongly to the notion of being correct--the very idea of being correct is reinforcing for their behavior. Lower-class children, however, are less concerned with correctness and accuracy and are, in this sense, less abstract and more concrete-minded than their middle-class peers. The notion has obvious implications for school performance, and so we set out to test it. We confronted lower- and middle-class children with a task in which they were told, after every response, whether they had been correct. Presumably middle-class children should have learned faster than lower-class children. They did not, and we were forced to conclude that at least within the context of this one experiment, the notion has not been supported.

Kuntz and Moyer (1969) have further indicated a need for study of the influence of a disadvantaged background on cognitive ability. They report (1969, p. 394) that their hypothesis of "no relationship between economic disadvantage and economic advantage and . . . attempts at problem solving and preference for rewards was supported." They recommended reconsideration of the long-accepted idea that economic status significantly affects motivation in learning.

Money Concepts and Experiences of Young Children

The young child becomes aware of money and its importance long before he understands how to use it. Very young children soon begin asking for money (Gruenberg, 1965). Ojemann (1933) recommended that a child be given a regular allowance early so that he could begin an active process of discrimination at an early age.

Publications suggested that providing children with money is an effective tool for teaching them management practices (Andrews, 1932;

Eliot, 1932; and Science Research Associates, Inc., 1971). Prevey (1945) and Hanson (1934) suggest that early experience with money provides basis for wise handling of money in later years. These studies also indicate that not only do the money management practices of children carry over into adulthood, but the values which are learned through the process of choosing and deciding also have a lasting effect.

Marshall and Magruder (1960) suggested that parents should educate their children in the use of money and recommend the following practices: (1) that children be given wide experiences with money, (2) that children be given their own money to spend, (3) that children be encouraged to save money, and (4) that children be made aware of their parent's wise handling of money. In their consideration of a child's use of money, Ojemann (1933) and Hanson (1934) caution that children who are given money should receive it on a regular basis and in a well defined plan.

Gruenberg (1965) reported that a child will not grasp the meaning of money until age five or six. She indicates that children living in towns where they are constantly being confronted with sales displays should be given money on a regular basis at an earlier age than the child from a rural environment. Another of her findings was that the child who is still uncertain in his arithmetic will learn more quickly if he has to manage his own coins. Robison (1964) used "money play" in her kindergarten. She reported that with the wide variety of experiences provided, all children began to take on some understanding of money as a medium of exchange, but that there remained a wide variance within the group in number concept development. Leeper, Dales, Skipper, and Witherspoon (1968) referred to the relationship of number concept

development and personal use of money and determined that before a child is ready to handle money on his own, he must understand simple numbers and be able to differentiate between the coins.

Grojean (1972) noted that even though curricula for upper grades has been developed, very little has been produced for use with the pre-school and kindergarten child. Gavian (1942) reported that very few schools recognized the need for economic education at any grade level. A possible reason, as indicated by McAllister (1964), is a reluctance on the part of teachers at the elementary level to include consumer education in their programs. Many teachers indicated that they questioned the child's readiness for the complex understandings of economics; another reason for hesitancy was the lack of teachers' understandings of the basic concepts of consumer education. McNeal (1964) and Robison and Spodek (1965) indicate that children are now and will continue to be more involved in consumer practices. With the growing need for a more informed consumer has evolved the idea that consumer education should begin in the preschool years (Frankel, 1960; Natella, 1968; Knauer, 1970; and Van Hooft, 1968).

The complexity of the problem of consumer education which faces the teacher of young children becomes more apparent when it is considered that many primitive tribes have never worked out a satisfactory system of exchange. The child must determine the comparative value of each piece of metal and paper and be able to recognize slight nuances of differences in order to do it (Ojemann, 1933). West (1971) found that three- and four-year old children were able to identify coins as money, but were neither able to name all the coins nor display any knowledge of the comparative or equivalent value of the coins. McCarty (1967)

revealed that four-year old children could differentiate money items from non-money items, and seemed to have greater facility in recognizing the money items. Children also tended to be able to identify coins of small denomination more frequently than coins of larger denomination. The results of McCarty (1967) and West (1971) suggest that responses to monetary concept tasks improved with increasing age. Strauss (1952) also established the importance of age in the development of monetary concepts.

Summary

The review of literature revealed the following: (1) that race has less influence on the environment of a child than income level; (2) that a disadvantaged home environment may not have a negative influence on cognitive development, or concept formation, as has been thought; (3) that children who have consistent and varied experiences with money will develop better money concepts; (4) that early experience with money possibly aids in the development of money values; (5) that money management at an early age apparently influences money management in adulthood; and (6) that there is a growing need for well developed programs of consumer education in the public schools beginning with the kindergarten year.

CHAPTER III

METHOD AND PROCEDURE

The monetary tasks developed by McCarty (1967) and later validated on three- and four-year old children by West (1971) were used to ascertain monetary concepts of black three-, four-, and five-year old children. Data from West (1971) were used to compare responses of three- and four-year old white children from middle-class families with the responses of black children. Data from Harper (1972) and Dunkin (1972) were used to compare the responses of five-year old white children from rural and urban families with the responses of black children. A description of the four tasks as reported by McCarty (1967) follows.

Test I--Money-Sorting Task

The purpose of the money-sorting task is to investigate children's ability to differentiate coins as money.

Materials needed: A small purse containing coins (half dollar, quarter, dime, nickel, and penny) and non-money objects (a plastic fifty cent piece, a bracelet charm resembling money, a plastic dime, a tin dime, a bus token, and a plastic penny).

Procedure: The child is shown the purse and told, "I have some real pieces of money for a real store and some 'pretend pieces' for a 'pretend store'." The coins and non-money objects are then taken from the purse and shown to the child. He is then instructed to sort them by

saying, "Put the real pieces of money for a real store over here [investigator indicates a place for the coins] and put the 'pretend pieces' for a 'pretend store' over here." (Investigator indicates a place.)

The manner in which the child sorts the objects is recorded.

Test II--Coin-Identification Task

The purpose of the coin identification task is to investigate children's ability to identify coins by name.

Materials needed: Two quarters, two half dollars, two dimes, three nickels, and two pennies.

Procedure: The coins are placed before the child in the following pattern:

25-10-25

10-5-1-5-25

1-50-5

The investigator says, "I have some real pieces of money on the table. Can you put your finger on a penny?" When the child responds, the investigator says, "Good." In this manner, the investigator directs the child either to put his finger on (a penny) or on a piece that is (one cent), in the following order:

- | | |
|------------------|-----------------------|
| 1. A penny | 8. Twenty-five cents |
| 2. A nickel | 9. Fifty cents |
| 3. A dime | 10. A quarter |
| 4. A half dollar | 11. Ten cents |
| 5. One cent | 12. A nickel |
| 6. Five cents | 13. Twenty-five cents |
| 7. Ten cents | 14. A half dollar |

- | | |
|-----------------|----------------|
| 15. One cent | 18. A penny |
| 16. A dime | 19. Five cents |
| 17. Fifty cents | |

The child's correct responses are recorded. The child is credited with identifying the coin if both his responses are correct, e.g., two responses for a penny or two responses for one cent.

Test III--Comparative Value Task

The purpose of the comparative value task is to investigate children's ability to identify coins of greater and lesser value.

Materials needed: The half dollar, quarter, dime, nickel, and penny are paired twice in all possible combinations. The pairs are mounted on three by five cards so that the coin of greater value in each pair will appear once on the left and once on the right.

Procedure: The investigator asks the child, "Do you go to the store with your mother sometimes?" (child responds) "What do you buy?" (If candy is not mentioned, the investigator again asks, "Do you buy candy sometimes?") The child is then shown the first card of paired coins. The investigator instructs the child to choose the coin of greatest value in each of the following pairs:

- | | |
|--------------------------|---------------------------|
| 1. Half dollar - quarter | 8. Penny - dime |
| 2. Dime - nickel | 9. Nickel - half dollar |
| 3. Penny - half dollar | 10. Quarter - penny |
| 4. Dime - quarter | 11. Dime - nickel |
| 5. Nickel - penny | 12. Half dollar - quarter |
| 6. Half dollar - dime | 13. Penny - dime |
| 7. Quarter - nickel | 14. Nickel - half dollar |

- | | |
|------------------------|-------------------------|
| 15. Quarter - penny | 18. Dime - quarter |
| 16. Half dollar - dime | 19. Penny - half dollar |
| 17. Nickel - penny | 20. Quarter - nickel |

The child's choices are recorded on the score sheet.

Test IV--Equivalent Value Task

The purpose of the equivalent value task is to investigate children's ability to match coins with coins of equivalent value.

Materials needed: (1) A variety of small inexpensive toys; four were used for each child, and (2) a four-shelf rack on which the toys could be placed. A coin was glued to each shelf to indicate the price of the toy on that shelf (top shelf, half dollar); (3) four small purses or containers; one containing three nickels and eleven pennies for matching the dime; one containing five nickels, three dimes and a half dollar for matching the quarter and one containing three quarters, seven dimes, six nickels and a penny for matching the half dollar. (It was helpful to match the color of the shelf to the color of the purse.)

Procedure: The child is shown four toys and the investigator instructs them to choose one by saying, "These are the toys I have in my store. You may choose one that you would like to buy." The investigator places the toy chosen by the child on the top shelf and puts the other toys out of sight.

The purse to be used in matching the nickel is given to the child. The investigator points to the toy saying, "Let us pretend that the [toy] costs this much [indicating the coin on that shelf]. You may buy it with the money in this purse. Give me the money you would need to buy the [toy]." (The investigator holds out her hand as if to accept

the coins.) When the child chooses his coins, the investigator records his choice and says, "Good. You could buy it with that purse, couldn't you? Now let us see if this purse will buy the [toy]?" (The purse for the dime is given to the child.) The investigator then moves the toy to the next shelf and says, "Now let us pretend that the [toy] costs this much" (indicating the dime). In this same manner, the child is requested to match the quarter and the half dollar with coins of equal value.

The child's choices are recorded on the score sheet.

CHAPTER IV

ANALYSIS OF DATA

The purposes of this study were: (1) to examine the monetary concepts of three-, four-, and five-year old black children from low socio-economic families through the use of McCarty's monetary tasks, and (2) to determine if there exists a difference in the monetary concepts of black children from low socio-economic families and white children from both urban and rural environments.

Subjects

Subjects for this study were 153 preschool children. Data were obtained for this study on 20 three-year old, 17 four-year old, and 23 five-year old low socio-economic black children whose families met the Office of Economic Opportunity poverty guidelines (Appendix A) and who were enrolled in Head Start programs and day care centers in Oklahoma. Subjects from previous studies provided data on 20 three-year old white children and 27 four-year old white children (West, 1971), 23 five-year old urban white children (Dunkin, 1972), and 23 five-year old rural white children (Harper, 1972). Table I presents the distribution of subjects.

TABLE I
 DISTRIBUTION OF SUBJECTS BY AGE AND RESEARCHER
 (N = 153)

	Three-Year Olds (N = 40) 3:00-3:12	Four-Year Olds (N = 44) 4:00-4:12	Five-Year Olds (N = 69) 5:00-5:12
Black (Masters, 1972)	20	17	23
White (West, 1971)	20	27	--
Rural White (Harper, 1972)	--	--	23
Urban White (Dunkin, 1972)	--	--	23

Test I--Money-Sorting Task

Tables II, III, IV, and V present data related to the child's ability to sort money items from non-money items. Table II indicates that the ability of the child to discriminate between real money and play money increases with age. Significant differences in ability tended to occur more often between four-year olds and five-year olds than between three-year olds and four-year olds, however the more significant differences appeared between three-year olds and five-year olds. Tables III and IV indicate that white middle-class three- and four-year old children gave approximately 20 percent more correct responses than black, low socio-economic three- and four-year old children; there were more significant differences between the three-year old blacks and whites than between the four-year old blacks and whites. Table V reveals little difference in percentages of correct responses to the money-sorting tasks; with urban and black children equal (94%) and rural white children lower (81%).

TABLE II
 NUMBER OF CORRECT RESPONSES AND DIFFERENCES AMONG THREE-, FOUR-,
 AND FIVE-YEAR OLD BLACK CHILDREN AS REFLECTED BY A
 CHI SQUARE ANALYSIS ON MONEY-SORTING TASK
 (N = 60)

	Number of Correct Responses			Level of Significance		
	Three-Year Olds (N = 20) 3:00-3:12	Four-Year Olds (N = 17) 4:00-4:12	Five-Year Olds (N = 23) 5:00-5:12	Comparison of Three- & Four- Year Olds	Comparison of Four- & Five- Year Olds	Comparison of Three- & Five- Year Olds
<u>Money Items</u>						
Half Dollar	10	15	23	.05	n.s.	.01
Quarter	9	15	23	.05	n.s.	.001
Dime	8	10	22	n.s.	.02	.001
Nickel	9	11	23	n.s.	n.s.	n.s.
Penny	10	13	23	n.s.	n.s.	.01
<u>Non-Money Items</u>						
Plastic Half Dollar	10	11	22	n.s.	.01	.01
Bracelet Charm	12	10	23	n.s.	.01	.01
Plastic Dime	11	10	23	n.s.	.01	.01
Tin Dime	8	12	15	n.s.	n.s.	n.s.
Bus Token	12	12	19	n.s.	n.s.	n.s.
Plastic Penny	10	16	22	.02	n.s.	.01
Total	109	135	238			
Percentage of Correct Responses	50%	72%	94%			

* When the term Black Children appears in any table in this thesis, it refers to black children from low socio-economic families.

TABLE III

NUMBER OF CORRECT RESPONSES AND DIFFERENCES BETWEEN THREE-YEAR OLD
BLACK CHILDREN AND THREE-YEAR OLD WHITE CHILDREN AS
REFLECTED BY A CHI SQUARE ANALYSIS ON
MONEY-SORTING TASK
(N = 40)

	<u>Number of Correct Responses</u>		<u>Level of Significance</u>
	Black Children (N = 20) 3:00-3:12	White Children (N = 20) 3:00-3:12	Comparison of Black and White Children
<u>Money Items</u>			
Half Dollar	10	19	.01
Quarter	9	17	.05
Dime	8	18	n.s.
Nickel	9	17	.05
Penny	10	18	.02
<u>Non-Money Items</u>			
Plastic Half Dollar	10	12	n.s.
Bracelet Charm	12	12	n.s.
Plastic Dime	11	17	n.s.
Tin Dime	8	17	n.s.
Bus Token	12	16	n.s.
Plastic Penny	10	19	n.s.
Total	109	182	
Percentage of Correct Responses	50%	83%	

TABLE IV

NUMBER OF CORRECT RESPONSES AND DIFFERENCES BETWEEN FOUR-YEAR OLD
BLACK CHILDREN AND FOUR-YEAR OLD WHITE CHILDREN AS
REFLECTED BY A CHI SQUARE ANALYSIS ON
MONEY-SORTING TASK
(N = 44)

	<u>Number of Correct Responses</u>		<u>Level of Significance</u>
	Black Children (N = 17) 4:00-4:12	White Children (N = 27) 4:00-4:12	Comparison of Black and White Children
<u>Money Items</u>			
Half Dollar	15	27	n.s.
Quarter	15	26	n.s.
Dime	10	24	n.s.
Nickel	11	25	n.s.
Penny	13	25	n.s.
<u>Non-Money Items</u>			
Plastic Half Dollar	11	25	n.s.
Bracelet Charm	10	21	n.s.
Plastic Dime	10	25	.05
Tin Dime	12	24	n.s.
Bus Token	12	25	n.s.
Plastic Penny	16	26	n.s.
Total	135	273	
Percentage of Correct Responses	72%	92%	

TABLE V

NUMBER OF CORRECT RESPONSES AND DIFFERENCES AMONG FIVE-YEAR OLD BLACK,
 URBAN WHITE, AND RURAL WHITE CHILDREN AS REFLECTED
 BY A CHI SQUARE ANALYSIS ON MONEY-SORTING TASK
 (N = 69)

	Number of Correct Responses			Level of Significance		
	Black Children (N = 23) 5:00-5:12	Urban White Children (N = 23) 5:00-5:12	Rural White Children (N = 23) 5:00-5:12	Comparison of Black & Urban Children	Comparison of Urban & Rural Children	Comparison of Black & Rural Children
<u>Money Items</u>						
Half Dollar	23	22	17	n.s.	n.s.	.05
Quarter	23	22	19	n.s.	n.s.	n.s.
Dime	22	23	19	n.s.	n.s.	n.s.
Nickel	23	22	19	n.s.	n.s.	n.s.
Penny	23	21	19	n.s.	n.s.	n.s.
<u>Non-Money Items</u>						
Plastic Half Dollar	22	18	16	n.s.	n.s.	n.s.
Bracelet Charm	23	21	19	n.s.	n.s.	n.s.
Plastic Dime	23	23	19	n.s.	n.s.	n.s.
Tin Dime	15	21	19	n.s.	n.s.	n.s.
Bus Token	19	23	19	n.s.	n.s.	n.s.
Plastic Penny	22	21	19	n.s.	n.s.	n.s.
Total	238	237	204			
Percentage of Correct Responses	94%	94%	81%			

Test II--Money-Identification Task

Tables VI, VII, VIII, and IX report the child's ability to identify money pieces. Table VI reveals that the percentage of correct responses to money identification increased with age although differences were significant on only four items. Table VII indicates that white three-year old children had correct responses (59%) more often than black three-year old children (19%) in money identification. Significant differences appeared in favor of the white child in regard to larger denomination coins. Table VIII shows that four-year old white children made more correct responses (51%) than four-year old black children (36%). Table IX indicates little difference among black children (33%), urban white children (35%), and rural white children (27%) in relation to money identification. These figures do indicate, however, that the rural white children tested slightly lower than the black low socioeconomic children and urban white children on this task.

TABLE VI

NUMBER OF CORRECT RESPONSES AND DIFFERENCES AMONG THREE-, FOUR-,
AND FIVE-YEAR OLD BLACK CHILDREN AS REFLECTED BY A
CHI SQUARE ANALYSIS ON MONEY-IDENTIFICATION TASK
(N = 60)

Coin	Number of Correct Responses			Level of Significance		
	Three-Year Olds (N = 20) 3:00-3:12	Four-Year Olds (N = 17) 4:00-4:12	Five-Year Olds (N = 23) 5:00-5:12	Comparison of Three- & Four- Year Olds	Comparison of Four- & Five- Year Olds	Comparison of Three- & Five- Year Olds
Half Dollar	2	3	9	n.s.	n.s.	n.s.
Quarter	1	3	8	n.s.	n.s.	.05
Dime	2	5	12	n.s.	n.s.	.01
Nickel	3	4	12	n.s.	n.s.	.05
Penny	1	16	20	.02	n.s.	.05
50¢	1	2	4	n.s.	n.s.	n.s.
25¢	0	1	3	n.s.	n.s.	n.s.
10¢	1	0	1	n.s.	n.s.	n.s.
5¢	2	0	3	n.s.	n.s.	n.s.
1¢	3	1	3	n.s.	n.s.	n.s.
Total	25	35	75			
Percentage of Correct Responses	13%	21%	32%			

TABLE VII
 NUMBER OF CORRECT RESPONSES AND DIFFERENCES BETWEEN THREE-YEAR OLD
 BLACK CHILDREN AND THREE-YEAR OLD WHITE CHILDREN AS
 REFLECTED BY A CHI SQUARE ANALYSIS ON
 MONEY-IDENTIFICATION TASK
 (N = 40)

Coin	Number of Correct Responses		Level of Significance
	Black Children (N = 20) 3:00-3:12	White Children (N = 20) 3:00-3:12	Comparison of Black and White Children
Half Dollar	2	13	.01
Quarter	1	10	.01
Dime	2	12	.01
Nickel	3	9	n.s.
Penny	11	15	n.s.
Total	19	59	
Percentage of Correct Responses	19%	59%	

TABLE VIII

NUMBER OF CORRECT RESPONSES AND DIFFERENCES BETWEEN FOUR-YEAR OLD
BLACK CHILDREN AND FOUR-YEAR OLD WHITE CHILDREN AS
REFLECTED BY A CHI SQUARE ANALYSIS ON
MONEY-IDENTIFICATION TASK
(N = 44)

Coin	Number of Correct Responses		Level of Significance
	Black Children (N = 17) 4:00-4:12	White Children (N = 27) 4:00-4:12	Comparison of Black and White Children
Half Dollar	3	11	n.s.
Quarter	3	8	n.s.
Dime	5	9	n.s.
Nickel	4	15	n.s.
Penny	16	26	n.s.
Total	31	69	
Percentage of Correct Responses	36%	51%	

TABLE IX

NUMBER OF CORRECT RESPONSES AND DIFFERENCES AMONG FIVE-YEAR OLD BLACK,
 URBAN WHITE, AND RURAL WHITE CHILDREN AS REFLECTED BY A
 CHI SQUARE ANALYSIS ON MONEY-IDENTIFICATION TASK
 (N = 69).

Coin	Number of Correct Responses			Level of Significance		
	Black Children (N = 23) 5:00-5:12	Urban White Children (N = 23) 5:00-5:12	Rural White Children (N = 23) 5:00-5:12	Comparison of Black & Urban Children	Comparison of Urban & Rural Children	Comparison of Black & Rural Children
Half Dollar	9	11	6	n.s.	n.s.	n.s.
Quarter	8	3	6	n.s.	n.s.	n.s.
Dime	12	13	7	n.s.	n.s.	n.s.
Nickel	12	13	6	n.s.	n.s.	n.s.
Penny	20	22	17	n.s.	n.s.	n.s.
50¢	4	3	3	n.s.	n.s.	n.s.
25¢	3	2	3	n.s.	n.s.	n.s.
10¢	1	4	2	n.s.	n.s.	n.s.
5¢	3	5	7	n.s.	n.s.	n.s.
11¢	3	5	6	n.s.	n.s.	n.s.
Total	75	81	63			
Percentage of Correct Responses	33%	35%	27%			

Test III--Comparative Value Task

The comparative value task was designed to show the child's knowledge of the comparative value of coins. Table X shows that older children made more correct responses. More significant differences appeared between three-year old and five-year old black children. Three-year old black children made more correct responses (53%) on the comparative value task than three-year old white children as indicated in Table XI. Table XII reveals more right responses for white four-year olds (70%) than for black four-year olds (60%). Table XIII shows that rural white children made fewer correct responses (67%) than black children (81%) or urban white children (80%).

TABLE X

NUMBER OF CORRECT RESPONSES AND DIFFERENCES AMONG THREE-, FOUR-,
AND FIVE-YEAR OLD BLACK CHILDREN AS REFLECTED BY A
CHI SQUARE ANALYSIS ON COMPARATIVE VALUE TASK
(N = 60)

Paired Coins	Number of Correct Responses			Level of Significance		
	Three-Year Olds (N = 20) 3:00-3:12	Four-Year Olds (N = 17) 4:00-4:12	Five-Year Olds (N = 23) 5:00-5:12	Comparison of Three- & Four- Year Olds	Comparison of Four- & Five- Year Olds	Comparison of Three- & Five- Year Olds
50¢ - 25¢	17	13	23	n.s.	n.s.	n.s.
50¢ - 10¢	9	12	20	n.s.	n.s.	.01
50¢ - 5¢	12	6	20	n.s.	.01	n.s.
50¢ - 1¢	10	13	22	n.s.	n.s.	.01
25¢ - 10¢	14	10	21	n.s.	n.s.	n.s.
25¢ - 5¢	11	9	17	n.s.	n.s.	n.s.
10¢ - 50¢	13	8	16	n.s.	n.s.	n.s.
5¢ - 50¢	9	10	20	n.s.	n.s.	.01
1¢ - 50¢	11	8	23	n.s.	.001	.01
10¢ - 25¢	13	9	23	n.s.	.01	.01
25¢ - 5¢	14	8	22	n.s.	.01	n.s.
25¢ - 1¢	13	10	23	n.s.	.01	.01
10¢ - 5¢	5	9	8	n.s.	n.s.	n.s.
10¢ - 1¢	9	14	23	.05	n.s.	.001
5¢ - 1¢	12	12	14	n.s.	n.s.	n.s.

TABLE X (Continued)

	Number of Correct Responses			Level of Significance		
	Three-Year Olds (N = 20) 3:00-3:12	Four-Year Olds (N = 17) 4:00-4:12	Five-Year Olds (N = 23) 5:00-5:12	Comparison of Three- & Four- Year Olds	Comparison of Four- & Five- Year Olds	Comparison of Three- & Five- Year Olds
5¢ - 25¢	4	10	14	.05	n.s.	.02
1¢ - 25¢	11	12	3	n.s.	.001	.01
5¢ - 10¢	8	8	3	n.s.	.05	n.s.
1¢ - 10¢	10	12	18	n.s.	n.s.	n.s.
1¢ - 5¢	10	12	20	n.s.	n.s.	.05
Total	217	205	333			
Percentage of Correct Responses	54%	60%	72%			

TABLE XI

NUMBER OF CORRECT RESPONSES AND DIFFERENCES BETWEEN THREE-YEAR OLD
BLACK CHILDREN AND THREE-YEAR OLD WHITE CHILDREN AS
REFLECTED BY A CHI SQUARE ANALYSIS ON
COMPARATIVE VALUE TASK
(N = 40)

	<u>Number of Correct Responses</u>		<u>Level of Significance</u>
	Black Children (N = 20) 3:00-3:12	White Children (N = 20) 3:00-3:12	Comparison of Black and White Children
<u>Paired Coins</u>			
50¢ - 25¢	17	12	n.s.
50¢ - 10¢	9	10	n.s.
50¢ - 5¢	12	16	n.s.
50¢ - 1¢	10	15	n.s.
25¢ - 10¢	14	11	n.s.
25¢ - 50¢	11	11	n.s.
10¢ - 50¢	13	12	n.s.
5¢ - 50¢	9	7	n.s.
1¢ - 50¢	11	10	n.s.
10¢ - 25¢	13	9	n.s.
25¢ - 5¢	14	11	n.s.
25¢ - 1¢	13	12	n.s.
10¢ - 5¢	5	7	n.s.
10¢ - 1¢	9	10	n.s.
5¢ - 1¢	12	9	n.s.

TABLE XI (Continued)

	<u>Number of Correct Responses</u>		<u>Level of Significance</u>
	Black Children (N = 20) 3:00-3:12	White Children (N = 20) 3:00-3:12	Comparison of Black and White Children
5¢ - 25¢	4	8	n.s.
1¢ - 25¢	11	8	n.s.
5¢ - 10¢	8	6	n.s.
1¢ - 10¢	10	11	n.s.
1¢ - 5¢	10	9	n.s.
Total	215	204	
Percentage of Correct Responses	53%	51%	

TABLE XII

NUMBER OF CORRECT RESPONSES AND DIFFERENCES BETWEEN FOUR-YEAR OLD
BLACK CHILDREN AND FOUR-YEAR OLD WHITE CHILDREN AS
REFLECTED BY A CHI SQUARE ANALYSIS ON
COMPARATIVE VALUE TASK
(N = 44)

	<u>Number of Correct Responses</u>		<u>Level of Significance</u>
	Black Children (N = 17) 4:00-4:12	White Children (N = 27) 4:00-4:12	Comparison of Black and White Children
<u>Paired Coins</u>			
50¢ - 25¢	13	22	n.s.
50¢ - 10¢	12	22	n.s.
50¢ - 5¢	6	24	.001
50¢ - 1¢	13	23	n.s.
25¢ - 10¢	10	23	n.s.
25¢ - 50¢	9	21	n.s.
10¢ - 50¢	8	22	.05
5¢ - 50¢	10	11	n.s.
1¢ - 50¢	8	18	n.s.
10¢ - 25¢	9	20	n.s.
25¢ - 5¢	8	21	n.s.
25¢ - 1¢	10	22	n.s.
10¢ - 5¢	9	11	n.s.
10¢ - 1¢	14	18	n.s.
5¢ - 1¢	12	20	n.s.

TABLE XII (Continued)

	<u>Number of Correct Responses</u>		<u>Level of Significance</u>
	Black Children (N = 17) 4:00-4:12	White Children (N = 27) 4:00-4:12	Comparison of Black and White Children
5¢ - 25¢	10	17	n.s.
1¢ - 25¢	12	20	n.s.
5¢ - 10¢	8	12	n.s.
1¢ - 10¢	12	15	n.s.
1¢ - 5¢	12	14	n.s.
Total	205	376	
Percentage of Correct Responses	60%	70%	

TABLE XIII

NUMBER OF CORRECT RESPONSES AND DIFFERENCES AMONG FIVE-YEAR OLD BLACK,
 URBAN WHITE, AND RURAL WHITE CHILDREN AS REFLECTED BY A
 CHI SQUARE ANALYSIS ON COMPARATIVE VALUE TASK
 (N = 69)

	Number of Correct Responses			Level of Significance		
	Black Children (N = 23) 5:00-5:12	Urban White Children (N = 23) 5:00-5:12	Rural White Children (N = 23) 5:00-5:12	Comparison of Black & Urban Children	Comparison of Urban & Rural Children	Comparison of Black & Rural Children
<u>Paired Coins</u>						
50¢ - 25¢	23	22	17	n.s.	n.s.	n.s.
50¢ - 10¢	20	18	17	n.s.	n.s.	n.s.
50¢ - 5¢	20	21	18	n.s.	n.s.	n.s.
50¢ - 1¢	22	20	17	n.s.	n.s.	n.s.
25¢ - 10¢	21	21	17	n.s.	n.s.	n.s.
25¢ - 50¢	17	22	18	n.s.	n.s.	n.s.
10¢ - 50¢	16	18	18	n.s.	n.s.	n.s.
5¢ - 50¢	20	19	17	n.s.	n.s.	n.s.
1¢ - 50¢	23	18	18	n.s.	n.s.	n.s.
10¢ - 25¢	23	20	18	n.s.	n.s.	n.s.
25¢ - 5¢	22	21	16	n.s.	n.s.	n.s.
25¢ - 1¢	23	20	17	n.s.	n.s.	.05
10¢ - 5¢	8	7	1	n.s.	n.s.	.05
10¢ - 1¢	20	22	10	n.s.	.001	.01
5¢ - 1¢	23	22	16	n.s.	n.s.	.05

TABLE XIII (Continued)

	Number of Correct Responses			Level of Significance		
	Black Children (N = 23) 5:00-5:12	Urban White Children (N = 23) 5:00-5:12	Rural White Children (N = 23) 5:00-5:12	Comparison of Black & Urban Children	Comparison of Urban & Rural Children	Comparison of Black & Rural Children
5¢ - 25¢	14	19	16	n.s.	n.s.	n.s.
1¢ - 25¢	20	17	14	n.s.	n.s.	n.s.
5¢ - 10¢	3	4	5	n.s.	n.s.	n.s.
1¢ - 10¢	18	12	13	n.s.	n.s.	n.s.
1¢ - 5¢	20	19	18	n.s.	n.s.	n.s.
Total	376	368	310			
Percentage of Correct Responses	81%	80%	67%			

Test IV--Equivalent Value Task

The Equivalent Value Task was designed to examine the child's ability to select several coins equivalent to the value of a designated coin (price) for the pretended purchase of a toy. Table XIV indicates that five-year old black children have some ability in this task, however, three- and four-year old black children got no correct responses. Table XV shows that white three-year olds have limited ability on this task. Table XVI reveals that white four-year old children have some ability for equivalent value concept. Table XVII indicates that among five-year olds, urban white children gave more correct responses than either black children or rural white children.

TABLE XIV

NUMBER OF CORRECT RESPONSES AND DIFFERENCES AMONG THREE-, FOUR-,
AND FIVE-YEAR OLD BLACK CHILDREN AS REFLECTED BY A
CHI SQUARE ANALYSIS ON EQUIVALENT VALUE TASK
(N = 60)

Coin	Number of Correct Responses			Level of Significance		
	Three-Year Olds (N = 20) 3:00-3:12	Four-Year Olds (N = 17) 4:00-4:12	Five-Year Olds (N = 23) 5:00-5:12	Comparison of Three- & Four- Year Olds	Comparison of Four- & Five- Year Olds	Comparison of Three- & Five- Year Olds
Half Dollar	0	0	1	n.s.	n.s.	n.s.
Quarter	0	0	0	n.s.	n.s.	n.s.
Dime	0	0	5	n.s.	n.s.	n.s.
Nickel	0	0	1	n.s.	n.s.	n.s.
Total	0	0	7			

TABLE XV
 NUMBER OF CORRECT RESPONSES AND DIFFERENCES BETWEEN THREE-YEAR OLD
 BLACK CHILDREN AND THREE-YEAR OLD WHITE CHILDREN AS
 REFLECTED BY A CHI SQUARE ANALYSIS ON
 EQUIVALENT VALUE TASK
 (N = 40)

Coin	Number of Correct Responses		Level of Significance
	Black Children (N = 20) 3:00-3:12	White Children (N = 20) 3:00-3:12	Comparison of Black and White Children
Half Dollar	0	3	n.s.
Quarter	0	1	n.s.
Dime	0	0	n.s.
Nickel	0	0	n.s.
Total	0	4	

TABLE XVI
 NUMBER OF CORRECT RESPONSES AND DIFFERENCES BETWEEN FOUR-YEAR OLD
 BLACK CHILDREN AND FOUR-YEAR OLD WHITE CHILDREN AS
 REFLECTED BY A CHI SQUARE ANALYSIS ON
 EQUIVALENT VALUE TASK
 (N = 44)

Coin	Number of Correct Responses		Level of Significance
	Black Children (N = 17) 4:00-4:12	White Children (N = 27) 4:00-4:12	Comparison of Black and White Children
Half Dollar	0	2	n.s.
Quarter	0	1	n.s.
Dime	0	0	n.s.
Nickel	0	0	n.s.
Total	0	3	

TABLE XVII

NUMBER OF CORRECT RESPONSES AND DIFFERENCES AMONG BLACK, URBAN WHITE,
AND RURAL WHITE CHILDREN AS REFLECTED BY A CHI SQUARE
ANALYSIS ON EQUIVALENT VALUE TASK
(N = 69)

Coin	Number of Correct Responses			Level of Significance		
	Black Children (N = 23) 5:00-5:12	Urban White Children (N = 23) 5:00-5:12	Rural White Children (N = 23) 5:00-5:12	Comparison of Black & Urban Children	Comparison of Urban & Rural Children	Comparison of Black & Rural Children
Half Dollar	1	1	0	n.s.	n.s.	n.s.
Quarter	0	2	0	n.s.	n.s.	n.s.
Dime	5	3	3	n.s.	n.s.	n.s.
Nickel	1	3	3	n.s.	n.s.	n.s.
Total	7	9	6			

Summary of Findings in Relation to Percentage
of Correct Responses

1. Ability to give right responses on monetary tasks increased with age.
2. Greater differences occurred between three- and five-year olds than between three- and four-year olds or between four- and five-year olds.
3. Black three- and four-year olds displayed more difficulty with all concepts except the comparative value task than did white three- and four-year olds.
4. Little difference occurred on any task between five-year old low socio-economic black children and five-year old urban white children.
5. Rural white five-year old children revealed more difficulty with all tasks than either the black or urban five-year old children.

Findings in Relation to Hypotheses

Hypothesis 1. There is no significant difference in responses to monetary concept tasks among black children from low socio-economic families according to age. Significant differences were found on 22 of the 45 test items comparing three-year old children to five-year old children. A comparison of three-year olds and four-year olds revealed significant differences on six of the 45 test items; eleven of the 45 items indicate significant differences between four-year olds and five-year olds. In each case of significant difference, the older child had more correct responses. Partial support was found for rejection of the

hypothesis.

Hypothesis 2. There is no significant difference in responses to monetary concept tasks between three- and four-year old black children from low socio-economic families and three- and four-year old white children from middle-class families. Of the 45 test items, significant differences occurred on seven items relating to black and white three-year old children and three items relating to black and white four-year old children. Differences were in the direction of the white children; white children gave more correct responses. In the majority of test items, the hypothesis was supported.

Hypothesis 3. There is no significant difference in responses to monetary concept tasks among five-year old children from black low socio-economic families, white urban families, and white rural families. Significant differences were found on six of the 45 items comparing responses of black children and rural children. A significant difference occurred on one of the 45 items comparing urban children and rural children. There were no instances of significant differences on the 45 items comparing black children and urban children. The hypothesis was accepted on almost every test item.

CHAPTER V

SUMMARY AND RECOMMENDATIONS

This study was concerned primarily with the monetary concepts of three-, four-, and five-year old black children from low socio-economic families and with a comparison of these children with urban and rural children. The specific purposes of this study were: (1) to examine the monetary concepts of three-, four-, and five-year old black children from low socio-economic families through the use of McCarty's (1967) monetary tasks, and (2) to determine if there exists a difference in the monetary concepts of black children from low socio-economic families and white children from both urban and rural environments.

The subjects were 20 three-year old black children, 17 four-year old black children, and 23 five-year old black children enrolled in Head Start and day care programs in Oklahoma. Data were compared on the following: 20 three year old white children (West, 1971); 23 four-year old white children (West, 1971); 23 five-year old urban white children (Dunkin, 1972); and 23 five-year old rural white children (Harper, 1972).

Procedures developed by McCarty (1967) for use with four monetary concepts as presented in Chapter III of this thesis were followed i.e.: Test I--Money-Sorting Task; Test II--Coin-Identification Task; Task III --Comparative Value Task, and Test IV--Equivalent Value Task.

Data were reported by number of correct responses by item, age level, and color, to determine factors which contribute to monetary concepts. A Chi Square analysis was utilized to determine significant differences.

Findings

The percentage of correct responses for each test leads to the following findings:

1. Ability to give right responses on monetary tasks increased with age.
2. Greater differences occurred between three- and five-year olds than between three- and four-year olds or between four- and five-year olds.
3. Black three- and four-year olds displayed more difficulty with all concepts except the comparative value task than did white three- and four-year olds.
4. Little difference occurred on any task between five-year old low socio-economic black children and five-year old urban white children.
5. Rural white five-year old children revealed more difficulty with all tasks than either the black or urban five-year old children.

The Chi Square analysis provided little support for rejection of the hypotheses, indicating no significant differences in responses to monetary concept tasks according to age and background.

Recommendations for Further Research

The following suggestions are made on the basis of the findings of this investigation:

1. Study children older than five years of age.
2. Study children from various sub-cultures, from rural areas, and different socio-economic levels.
3. Study the influence of personal and school experiences with money on children three to five years of age.

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APPENDIX A

OEO POVERTY GUIDELINES*

<u>Family Size</u>	<u>Non-Farm Family</u>	<u>Farm Family</u>
1	\$1,800	\$1,500
2	2,400	2,000
3	3,000	2,500
4	3,600	3,000
5	4,200	3,500
6	4,800	4,000
7	5,400	4,500
8	6,000	5,000
9	6,600	5,500
10	7,200	6,000
11	7,800	6,500
12	8,400	7,000
13	9,000	7,500

For families with more than 13 members, add \$600 for each additional member in a non-farm family and \$500 for each additional member in a farm family.

*OEO Instruction 6004-1a, January 30, 1970
Office of Economic Opportunity
Executive Office of the President
Washington, D. C. 20506

APPENDIX B

Description of Variables in Deprivation Index^{*}

Variable	Dichotomized
1. Housing dilapidation index for block on which S resides, and assigned to him, computed from census data	1 = Anything less than sound with complete plumbing (either dilapidated or deteriorating) 2 = Sound with complete plumbing
2. The educational aspirational level of the parent for the child	1 = College or less 2 = Graduate or professional training
3. The number of children under 18-years-of-age in the home	1 = 3 or more 2 = 2 or less
4. Dinner conversation	1 = Did not engage in conversation because: Not allowed to Others participated, but child did not No conversation, no indication why Ate alone 2 = Engaged in conversation
5. Total number of cultural experiences anticipated by child for coming weekend--visiting relatives, family, museums, library, zoo, travel outside NYC, school or lesson work	1 = None 2 = One or more experiences (1-4)
6. Attendance of child in kindergarten	1 = No attendance at kindergarten 2 = Attendance at kindergarten

^{*}A cumulation of conditions resulted in a larger "deprived" score on the Index (Deutsch, Katz, and Jensen, 1968, pp. 100-101).

APPENDIX C

SCORE SHEET

NAME

AGE

DATE

TEST I--MONEY-SORTING TASK

50	25	10	5	1	1	p50	C	p10	t10	BT	p1
Money Items						Non-Money Items					

* Check each object correctly sorted as a money-non-money item.

TEST II--COIN-IDENTIFICATION TASK

Half Dollar	Quarter	Dime	Nickel	Penny	50	25	10	5	1
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* Step one - Check each coin correctly identified.
Step two - Circle each coin correctly identified.

TEST III--COMPARATIVE VALUE TASK

50	25	25	50	25	5	5	25
50	10	10	50	25	1	1	25
50	5	5	50	10	5	5	10
50	1	1	50	10	1	1	10
25	10	10	25	5	1	1	5

* Check the coin chosen in each pair.

TEST IV--EQUIVALENT VALUE TASK

COIN	CORRECT RESPONSE	INCORRECT RESPONSE
Half Dollar		
Quarter		
Dime		
Nickel		

VITA

Lynda Wayne Henley Masters

Candidate for the Degree of

Master of Science

Thesis: MONETARY CONCEPTS OF BLACK PRESCHOOL CHILDREN FROM LOW SOCIO-ECONOMIC FAMILIES

Major Field: Family Relations and Child Development

Biographical:

Personal Data: Born in St. Louis, Missouri, November 23, 1942, the daughter of Mr. and Mrs. Fred Louis Henley.

Education: Graduated from Caruthersville High School, Caruthersville, Missouri, in May, 1960; received Bachelor of Christian Education degree from Presbyterian School of Christian Education, Richmond, Virginia, in May, 1964; completed requirements for the Master of Science degree in July, 1972.

Professional Experience: Director of Christian Education, Black Mountain Presbyterian Church, Black Mountain Children's Home, Black Mountain, North Carolina; Lead Teacher, Central School for the Young Years, St. Louis, Missouri; Director-Teacher, Hugo Child Development Center, Hugo High School, Hugo, Oklahoma.

Professional Organizations: Phi Upsilon Omicron, Omicron Nu, Oklahoma Association on Children Under Six, and Southern Association on Children Under Six.