## THE STABILITY OF YOUNG CHILDREN'S

COLOR PREFERENCES

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## CHAPTER I

## THE PROBLEM AND ITS IMPORTANCE

This study was concerned with the stability of young children's color preferences and this preference relationship to various types of stimulus objects familiar to the child in his everyday life. The study was also concerned with the relationship between siblings' and the subject's color preferences. Easterling (1974) studied color preferences of a group of young children and this investigator studied these same children at a later date to determine the constancy of their color preference.

The Need for the Study

There is little doubt that color is important in life today. The more understanding man has of this the better will color serve his welfare and be put to beneficial use (Birren, 1967). That color affects man and some animals and influences the growth of some plant life has been established (Abbott, 1947, p. 129). Children react more instinctively to colors than adults because they have not been influenced by commercial pressure; nor have they been inhibited by social taboos that condemn expression of natural feelings (Cheskin, 1947). Because of the strong emotional appeal of color, individuals tend to have strong feelings about it, negative as well as positive (Birren, 1955). Staples and Walton (1933) found that pleasurable experiences with assigned colors
influenced color choices of children. As Sargent (1923) has noted:
Any trustworthy classification of the color preferences of people on the direct appeal of a given color on the emotions is difficult to obtain. Our responses to color are bound up with associations of other experiences. A child's attitude toward a color may be affected if he has seen it worn by a person whom he especially likes or dislikes, or if it has been prominently connected with experiences pleasant or otherwise. (p. 47)

Bou and Lopez (1953) found that the preferences and interests of children may change; consequently, children's color preferences need to be reassessed from time to time. Increased mobility of the population, mass communication, increased urbanization, and the influence of automation in society are several factors that have formed and modified individuals' perceptions of and concern for color preferences (Collier, 1956).

The need for further research concerning young children's color preferences is apparent for the following reasons: (1) The majority of the color preference studies were done in the 1930's (Collier, 1956) and the available data are not current; (2) young children's color preferences may have changed over the years; (3) the developmental studies of color preferences thus far are generally not conclusive (Child, Hansen, and Hornbeck, 1968); (4) teachers can plan, select, and buy more wisely with a knowledge of children's color preferences; (5) parents can plan and purchase wisely with a knowledge of children's color preferences; (6) business can profit by a precise knowledge of the color preferences of children as they produce and distribute wearing apparel, toys, books, furniture, room accessories, and educational materials for young children (Katz and Breed, 1922); (7) color studies have not focused on the young child and his color preferences.

The Purpose

The overall purpose of this study was to determine the color preferences of young children and to determine if children's color preferences are related to (1) their choice of furniture and room decor, and (2) their sibling's color preferences. Another purpose of this study was to determine the constancy of color preference when children are tested and retested at least six months later.

## Hypotheses

The following hypotheses were examined:
(1) There is no difference in the color preferences of three-, four-, and five-year-olds classified according to sex when retested six months later.
(2) There is no difference in the color preferences of children classified according to age when retested six months later.
(3) There is no difference in color preferences according to age and sex when retested six months later for color preferences of clothes and toys.
(4) There is no relationship between the color preferences of young children and their choice of color for specific bedroom furniture and bedroom decor according to age and sex.
(5) There is no difference between the color preferences of young children and the color preferences of their siblings.

Definition of Terms

The following terms were used by Easterling (1974) and defined as

## follows:

## Color

Webster's Dictionary (1965) defined color as "a phenomenon of light (as red, brown, pink, gray) or visual perception that enables one to differentiate otherwise identical objects" (p. 168). In this study an extended meaning of color will be used. This definition includes the visual sensation, distinct from form and embraces such terms as "pig-: ment," "colorant" and "coloring matter." The three properties of color significant to this investigation are hue, value and intensity or chroma (Schwartz, 1960).

Hue

There are three major qualities of color which may be used to describe any given color. These terms may be defined as follows. Hue (color) refers to the chromatic quality of a color which we indicate by its name (such as blue). In order to change the hue of a color, another color is mixed with it (Sargent, 1923).

Value

Value (brightness) refers to the relation of a color to black and white. In order to change the value of a color, it is mixed with something lighter or darker than itself (Sargent, 1923).

## Intensity

Intensity (chroma or saturation) refers to the color strength of a hue as compared with a colorless gray. This comparison is being made
when a color is said to be a brilliant blue or a dull blue. In order to change the intensity of a color, it is mixed with something to make it grayer than it is. The intensity may be reduced by adding some of the complement to it. The intensity may also be reduced by mixing the color with a neutral gray which is neither darker nor lighter than itself--in this case the intensity is changed without changing the value or hue (Sargent, 1923).

Munsell (1946) further illustrates the meanings of the color terms and how these qualities interact:

Every color sensation unites three distinct qualities, defined as HUE, VALUE, AND CHROMA (intensity). One quality may be varied without disturbing the other. Thus, a color may be weakened or strengthened in Chroma without changing its Value or Hue. Or its Hue may be modified without changing its Value or Chroma. Finally, fts Value may be changed without affecting its Hue or Chroma. (p. 14)

## Complementary Colors

A complementary color is one of a pair of contrasting colors that produce a neutral color when combined in suitable proportions (Webster's Dictionary, 1965).

## Primary Colors

The six colors to be used for the purposes of this investigation are the primary and secondary colors. The primary colors (red, blue and yellow) are those colors that cannot be produced from other colors (Webster's Dictionary, 1965).

## Secondary Colors

The secondary colors (violet, green and orange) are those colors
that may be formed by mixing two primary colors in equal or equivalent quantities (Webster's Dictionary, 1965).

## Shades and Tints

Two color terms that are related to this study are shades and tints. Webster's Dictionary (1965) defined a shade as being a variation of a color produced by adding black to it. A tint is a color variation produced by adding white to it.

## Color Spectrum

Another color term utilized in this study is that of color spectrum. The spectrum refers to the series of images formed when a beam of radiant energy is subjected to dispersion and brought to focus so that the component waves are arranged in the order of their wave leng.ths (Webster's Dictionary, 1965). The colors are arranged from red, the longest wave lengths, to violet, the shortest wave lengths. The color spectrum may be evidenced when viewing a rainbow or when looking at the colors that are dispersed by a prism held in the sunlight.

## Color Preference

For the purpose of this study, the term color preferences may be defined. Woodworth (1938) defined this term as "the color which was selected first from the sample of possible choices presented to a person" (p. 381).

Rank Order

Rank order of color preference, for the purpose of this study, is

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synonymous with "descending order of preference" (Collier, 1956). Ac-
cording to Webster's Dictionary (1965) the term rank means to have a
position in relation to others and order is defined as putting things
into their proper places in relation to each other.
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## CHAPTER II

## RELATED LITERATURE

Age and Color Preferences:

Probably no one factor has received more attention than age and its relationship to color preferences (Collier, 1956). Jastrow (1897) worked in connection with the Psychological Laboratory of the Worlds Columbian Exposition, held in Chicago in 1893 and studied more than 4,500 individuals who voted on their color preferences. He found blue least selected by the youngest group eighteen years and below, and decidedly preferred by the oldest group, forty-one years and above. He disclosed that blue was chosen first by slightly more than a fourth of the total number of people tested. Red was second in preference, and violet was gradually avoided as age increased, while lighter red was particularly preferred by those below eighteen years of age. Holden and Bosse (1900) found preferences of children developed from the red towards the blue end of the color spectrum until blue becomes the preferred color at the age of eight.

Michaels (1924) tested boys from the ages of $6-15$ years using the primary and secondary colors displayed on a color chart in the front of each room. The subjects were from the same New York City school. Blue, red, violet, orange, yellow, and green were preferred in descending order for this group. The conclusion was drawn that color
preferences changed with increased maturity.
Katz and Breed (1922) studied the effect of age on the color preferences of 2,500 subjects who ranged from first grade to freshmen in college. The investigators summarized their findings:

1. Forty-seven per cent found blue the most pleasing of the six colors used. Green was a distant second, red a close third, violet and yellow occupied the next positions and orange proved the least pleasing of the six.
2. There was in general a distinct rise in the preference values of green, blue, and violet, the colors of short wave length, and a corresponding decline in the values of red, orange, and yellow, the colors of long wave length, as the children advanced in age and grade.
3. In the comparison of pre-adolescents with adolescents, the most noticeable differences were the marked loss in the popularity of orange and yellow and the increase in the popularity of green as the children matured. (p. 265)

The studies by Garth (1922), Garth, Ikeda, and Langdon (1931), and Garth and Collado (1929), concerning Indian, Japanese, and Filipino children have supported the finding that color preferences changed with increased age.

A total of 1,199 Wisconsin elementary school children, grades one to eight, were tested by Riker (1925). Four colors with one tint and one shade of each were used: red, blue, yellow, and green. Four charts were used from which the children made their choices. With changing age, there seemed to be a steady change of choice. Red remained constant while a steady increase in favor of blue was shown and included a growing appreciation for green.

In a study of 1,032 young children, one to seven years of age, Garth and Porter (1934) used the primary and secondary colors, plus white. The older children $(1,000)$ were found to have a more definite discrimination of feeling of difference between the colors than the
younger children which tended to increase with age. Red was most preferred by all age-groups for children through kindergarten and dropped in preference in the first grade. Blue was most liked with increasing age while any color was preferred to white. Gale (1933) administered tests in four Chicago elementary schools to children in grades three through eight. The tests for choice of a single color showed a definite preference for orange, red-violet, and blue in the order named. Yellow was one of the least preferred colors. Gale (1933, p. 55) stated that "The child's accumulating experience with color throughout the grades did not affect his preferences for the color combinations in grades 38." These findings do not coincide with results of other studies concerning age and color preference.

A study by Bou and Lopez (1953) of 2,496 elementary school Puerto Rican children in grades 2, 4 and 6 found that blue was the favorite color throughout all grades and for all ages. B1ue was a stronger favorite for the older children than with the younger ones. Orange was the least preferred. Red and yellow came next in preference and primary colors were preferred to secondary colors. The number of students who selected red, yellow and violet diminished with increased grade level.

In a more current study by Co11ier (1956), 591 children of the first, third, fifth, and seventh grades were tested employing the paired comparison technique and using the six spectral colors plus gray and white. The children were representative of typical classrooms from two city, two suburban, and two rural schools within a radius of 60 miles of Syracuse, New York. The preference for the eight colors tested showed yellow, orange, red, blue, violet, white, green, and gray in a descending scale of preference. Collier summarizes the findings:

1. Yellow was most preferred, gray least preferred at all grade levels.
2. With increased age, children exhibited a tendency to conform more and more to a single pattern of color preferences.
3. The 'warm' colors of red, orange, and yellow always occupied the first three ranked positions regardless of grade level. (p. 81)

Bjersted (1960, p. 32) summarizes subjects preferences concerning warm and cool colors:

Studies of age differences on a group of 603 individuals from preschool children up to university students generally showed very clear discrepancies in the expected direction: more warm color patterns preferred among the younger ones, more cool patterns among the older ones.

In a recent study by Child, Hansen, and Hornbeck (1968) children in the first through the twelfth grade were shown color pairs and expressed a preference of one color over the other. Children were found to prefer cooler colors. With increased age, there was a weakening of a childhood preference for high chroma as hue became a more important determinant of color preference.

## Sex and Color Preferences

Jastrow (1897) found male and female color preferences of adults dissimilar. The most preferred woman's color was red, while men overwhelmingly chose blue. Colors related to blue (blue violet and violet) were masculine preferences, while feminine preferences included lighter red (or pink), and to a lesser degree, green and yellow. In addition, masculine subjects limited their color selections to fewer choices than feminine subjects.

Winch (1909) reported color preferences for most and least preferred colors the same for both sexes, but subjects ranked yellow and
green differently in the middle of the color spectrum. A study by Dashiell (1917) of 212 kindergarten children from nine Minneapolis kindergartens of all classes tested color preferences for the six spectral colors. For purposes of comparison, 126 college sophomores at the University of Minnesota were also tested. Results indicated the two sexes at both ages show a similarity in preferring certain colors, but the order of preference differed.

Katz and Breed (1922) found no striking difference in the color preference of the two sexes. Studies to determine sex differences in color preferences of children from varied cultures by Garth (1924), Mercer (1925), Hurlock (1927), Gesche (1927), Garth and Collado (1941), and Garth, Ikeda, and Langdon (1931) were in agreement concerning observable differences, but none were significant. The rankings of yellow, green, orange, and violet was the only major differences. No order was consistent for these colors. The number of colors and the colors used, the culture of the subjects and the testing procedure may influence a consistent order of color preference.

Dorcus (1926) found very little difference in the order of preference for the two sexes, but stated that "yellow has a lower affective value for the females than with the: males" (p. 416). St. George (1938) found no significant differences for men and women. The sequence for men was blue, green, red, orange, yellow, violet, and white, while women preferred blue, green, red, yellow, orange, violet, and white.

A comprehensive study by Eysenck (1941) of 15 men and 15 women found high agreement with regard to their color preferences. Blue, red, green, violet, orange, and yellow were preferred on a descending scale of preference. The average order of preference given by the men and
women was identical with a correlation of 9.95 . Men showed a slight preference for orange and women showed a preference for yellow. Eysenck compared his findings on the order of colors preferred with 17 investigations giving average orders for men, and 16 investigations giving average orders for women, including total averages for the orders of the two sexes separately. The correlation between the two orders was .95, the same as in Eysenck's study.

Granger (1959) reported no difference in color preferences between the sexes. Child, Hansen, and Hornbeck (1968) studied children and adolescents and found the two sexes do not differ in the general direction of preferences.

Socio-Economic Status and
Color Preferences

Color preferences of 2,000 children ranging from 7 to 15 years of age were studied by Winch (1909) who compared children who lived in high, middle, and low socio-economic groups. Evidence supported the conclusion that social status of the children influenced the development of color preference. Children in high and middle socio-economic schools had similar preferences and preferred blue, red, yellow, green, white and black for children in higher grades and green was later preferred to white. Winch, also, found some differences in color preferences in lower socio-economic schools. The color preferences were the same in the early grades including upper, middle, and low socio-economic schools, with the exception of black. Black, although the least preferred color, rated higher by more children in the low socio-economic schools. The order of preference of children in the higher grades
changed to blue, red, green, white, yellow, and black.
Michaels (1924) tested boys in working class and high socioeconomic neighborhoods and found that economic status does affect the development of preference for colors. The ten-year-old boys tested from a school in a working class neighborhood chose blue, orange, red, violet, yellow and green in order of preference. Different results were obtained from twenty-seven ten-year-old boys from a school in a high socio-economic area. The order of preference was violet, red, blue, orange, yellow, and green. Riker (1925) tested 1,199 elementary school children in Wisconsin, including grades one through eight, and found socio-economic status influenced the development of color preferences.

Katz and Breed (1922) tested the color preferences of children from 5 to 15 years of age and found red a greater favorite among children in lower socio-economic neighborhoods during their earlier years. Green was preferred by children in higher socio-economic neighborhoods. Differences due to socio-economic status tended to be overcome as the subjects advanced in age and grade in school.

Collier (1956) studied the color preferences of 591 children from city, suburban, and central schools near Syracuse, New York. He concluded that socio-economic status had no significant effect on color preferences.

Race and Color Preferences

Garth (1922) studied the color preferences of 559 full-blood Indians, 174 mixed blood Indians and 560 Caucasians to determine the effects of race on color preference. The method of simultaneous presentation was employed involving ranking of the six spectral colors and
white. The full-blood American Indians preferred red, blue, violet, green, orange, yellow, and white in descending order of preference. Mixed blood and white subjects indicated a less definite order of preference that involved overlapping of choices, although the first choice of both groups was blue. Two years later Garth (1924) tested 1,000 white children from grades one to ten using the same testing procedure and color stimuli. The sequence of preferred colors ranged from most to least preferred in the following scale: blue, green, red, violet, orange, yellow, white. The only definite preferences where no overlapping existed involved blue, the most esteemed color, and yellow and white, the least esteemed colors. Garth also concluded:

Education seems to produce a tendency toward a suppression of preference for all colors excepting blue in this case of white subjects, as measured in terms of scale values. (p. 241)

Mercer (1925) studied the color preferences of 1,006 Negro children from the first to the eleventh grades in Texas public schools. The subjects ranked their preferences of the six spectral colors plus white when simultaneously presented. Blue was found to be the most preferred color with orange, green and violet, red, yellow, and white preferred in a descending scale in which green and violet have equal values. Mercer (1925) compared this study with earlier studies of whites and concluded that white subjects seemed to have a more clearly defined preference order than Negro subjects.

Hurlock (1927) studied 194 white and 206 Negro children of both sexes who attended public school in New York City and came from similar environmental conditions. Each child was given a slip of paper on which were listed thirteen colors in the following order: green, red, brown,
crimson, pink, blue, violet, white, purple, yellow, orange, gray, and black. The word which represented the name of the most preferred color was to be underlined. The colors most often preferred by both white and Negro subjects were blue and pink, while black, brown, and gray were least preferred. The investigator indicated:

The facts brought out by this study do not confirm the popular belief that Negro children have a far greater tendency towards bright colors than do white children. It would be nearer the truth to say that the differences in the color preferences of the white and Negro children of this experiment are slight, and that within racial groups, the differences are as great as between the groups. (p. 404)

Color preferences of 1,052 Mexican children were tested by Gesche (1927) who found red, green, blue, violet, orange, white, and yellow preferred in descending order of preference. No significant differences were found in color preferences between whites and Mexicans.

Garth and Collado (1929) extended their study of children's color preferences to include 1,004 full-blood Filipino children in grades one through high school. The sequence of color preferences beginning with the most preferred included: red, green, blue, violet, orange, white, yellow with blue and green and orange about equal respectively. The Filipinos were found to have a short color preference scale which indicated inability to discriminate feelings of difference for many of the colors when compared. The Filipinos and American Indian are similar in their preference for red and rather similar to young whites as well as to young of other races with respect especially to red and white. Garth, Ikeda, and Langdon (1931) also studied 1,011 Japanese children from the first through the tenth grades and found red to be the most preferred color for Japanese subjects which agrees with preferences for Indian and Mexican subjects previously studied.

Shen (1937) used the six spectral colors and white with the paired comparison technique with 1,368 Chinese students and found white to be the most preferred color. This color preference has been consistent for Chinese, although no other racial group so far studied has chosen white as the most preferred color. Cultural influences, the investigator felt, especially related to language, may be influential concerning this difference.

A series of studies have been conducted under the direction of John E. Williams (Williams, 1964; Williams, 1966; Renninger and Williams, 1966; Williams and Roberson, 1967; Williams and Edwards, 1969) concerning the designation of racial groups by color names. The color names of white and black are frequently used in nonracial contexts as symbols of good or evil and the investigators wondered whether the designation of people by these terms influenced how the groups were perceived. Williams (1964) found that the color name white rated most positively and black rated most negatively of the 10 color names studied by young adults. Williams (1966) found the evaluative connotations associated with the names of five racial groups (Caucasian, Negro, Oriental, American Indian and Asiatic Indian) were highly similar to the evaluative connotations of the color names by which these groups are commonly designated. The association of color names with racial groups may influence the manner in which these groups are perceived (Durrett and Davy, 1970, p. 17).

## Personality and Color Preferences

The relationships existing between color preference and personality are numerous while reactions to color tend to be impulsive and emotional
(Birren, 1955). Sargent (1923) indicated that colors produce direct effects which are likely to give us impressions of warmth or coolness. Red tends to arouse an emotional excitement stronger than that of other colors, while the influence of blue seems to have a relaxing effect. Many (1953) wrote:

Because of association with human experience, a color tone means a certain quality and should arouse the feeling inherent in that quality. Yellow is like the sun and artificial light . . . so, by association, yellow introduces feelings of light and cheer. Red is the color of fire. It seems to reach man's consciousness more quickly than any other color. It is aggressive and introduces the qualities of heat and aggression. (p. 2)

Holden and Bosse (1900) support the idea that the colors of the red end of the spectrum are conceded to be exciting or irritating when presented in large masses, while the greens and blues are known to be quieting and restful. Concerning the attractiveness of colors to the young infant, the investigators wrote:

The young infant, it would seem, responds to the exciting colors in a physiological or almost instinctive way, choosing the colors of the red end of the spectrum before those of the blue. As mental processes dominate the earlier more physiological reactions, we find an indifference to all colors, and later a dislike for the exciting colors of the blue end of the spectrum. (p. 276)

In interpreting the art expression of young children from three to five years of age, Alschuler and Hattwick (1947) concluded that a delight in color revealed emotional tendencies, although the frequent use of black or blue revealed self-control and the repression of emotion. Red had the highest affective value and showed uninhibited expression, while yellow reflected infantile traits and dependence on adults, although green revealed balance, an uncomplicated nature, and fewer emotional impulses.

Human beings tend to prefer clear, distinct hues that are warm in tone or cooler hues and tones of less saturation (Eysenck, 1941; Guilford, 1934; Jaensch, 1939). The subjects who preferred warm colors were characterized by a receptiveness to the environment and an openness to outside influences while they readily involve themselves in their social environment. The cold color dominant subjects display a detached attitude and have difficulty adapting to new circumstances or to expressing themselves freely and are cold and reserved. According to Jaensch (1930), colors seem to differ as psychic makeup differs.

A study analyzing children's drawings by Hurlock and Thompson (1934) revealed that four- and five-year-olds used color with interest and for the pleasure such colors offered them. Five- and six-year-old children increased their appropriate use of color as related to their drawings. Appropriate use of colors continued to increase to some de-. gree with increased age.

St. George (1938) studied color preferences of college students and found emotional responses usually accompanied the amount of color experience. Pleasant responses were recorded more frequently by non-art students than by art students, while association of colors with various experiences, such as nature and objects, followed a general trend. Color symbolism, such as yellow symbolizing warmth or joy, seemed uncommon, although more common among non-art than among art students. Bjerstedt (1960) studied 603 Swedish individuals from preschool to university students and found warm colors preferred among the younger subjects and cool colors among older subjects. Thirty university students were retested and rated on their ability to attend to and accomplish tasks on two experiments. Subjects who selected warm colors
tended toward stimulus openness or receptivity, while students preferring cool colors tended toward stimulus reworking or selectivity. In general, preferences for warm colors represented activity, directness, and need gratification. Subjects preferring warm colors expressed an attitude of life enjoyment rather than of moral or intellectual selection. McInnis and Shearer (1964) found a relationship between colors preferred by individuals and certain other personal preferences related to social activities, recreational activities, and music and art preferences.

Several investigators have studied warm and cool color preferences of mentally ill patients. The conclusions of these studies indicate that emotionally elated and physically active patients prefer the warmer and brighter colors, such as red, yellow, and orange; while the emotionally depressed and physically inactive patients prefer cooler colors, such as green, blue and purple (Bullough, 1907; Goldstein, 1942; Bricks, 1944; Birren, 1950; Goldberg, 1961).. Bullough (1907) concluded that color preferences may be determined in the last analysis by the individual's desire to be stimulated (preference for warm colors) or to be soothed (preferences for cool colors).

## CHAPTER III

## PROCEDURE AND METHOD

Subjects

The subjects for this study of young children's color preferences were the same subjects used by Easterling (1974) six months later to determine the constancy of their color preferences. There were 20 three-year-old children, 29 four-year-old children and 29 five-year-old children. The siblings of subjects tested were also tested for their color preferences.

## Tests

## Easterling's Tests

Easterling (1974) reviewed different methods of investigation concerning studies of color preference, and this investigator used the testing instruments developed by Easterling.

Test 1. For testing children's color preferences, six colors in three inch squares were used. The colors were limited to six in number. The colors used were the primary and secondary colors: red, yellow, blue, orange, green and violet. The colored papers used in the tests were the color-aid papers produced by Geller Artist Materials, Inc., in New York City. These colors correspond to the color scale of the

Ostwald Color Solid (Smith, 1965). These color stimuli were presented simultaneously in random order. To insure random order of presentation, the stimulus objects were cast onto the table directly in front of the child from a container which was large enough to allow sufficient mixing of the stimulus objects (Easterling, 1974, p. 33). This cylindrical container had a $30^{\prime \prime}$ circumference and was $10^{\prime \prime}$ high with a lid and covered with gray pellon.

Test 2. For testing children's color preferences when associated with stimulus objects familiar to the child in his everyday life, the same six colors were used. The stimulus objects included four kinds of clothes (pair of house shoes, coat, girl's dress and boy's jumpsuit). Each of these objects was presented in the six colors and was approximately $3^{\prime \prime} \mathrm{X} 5^{\prime \prime}$. Each type of stimulus object was presented simultaneously in the six colors in random order. As in Test 1 , the stimulus objects were cast onto the table directly in front of the child from a container large enough to sufficiently mix the stimulus objects.

## Investigator's Tests

Test 3. For testing children's color preferences when associated with additional stimulus objects familiar to the child in his everyday life, four picture objects of furniture (bed, chair, dresser, and lamp) were presented in the same six colors. Each type of stimulus object was presented simultaneously in the six colors in random order. As in Test 1 and 2, the stimulus objects were cast onto the table directly in front of the child from a container large enough to sufficiently mix the stimulus objects.

Test 4. For testing children's color preferences when associated with stimulus objects familiar to the child in his everyday life, the same six colors were used. These stimulus objects were selected from the decor, i.e., bedspread, curtains, rug, picture and wastebasket of a child's bedroom. The picture of the bedroom included children's furniture, i.e., bed, dresser, and nightstand. The walls and floor in all decor were white, however, in each bedroom picture the room decor was only one of the six colors and approximately $9^{\prime \prime} \times 10^{\prime \prime}$. Each picture was presented simultaneously in random order.

Color Screening Test for Siblings. A color screening test developed by Easterling (1974) was administered to each sibling individually prior to testing for color preference. The subjects which Easterling (1974) used had already been screened. One inch styrofoam balls covered with yarn were presented in a low container in the six colors plus brown and gray. Five balls of yarn of each color plus five balls of gray and five balls of brown were placed on the table directly in front of the child. This made a total of forty balls. The container was covered with gray pellon. The experimenter had one covered ball of yarn of each of the eight colors in a plastic sack and placed one colored ball on the gray cloth directly in front of the child and asked the subject to choose the balls in the container of the same color as the one on the table. When the test was completed, the child replaced the balls in the container. This procedure continued until the child had an opportunity to choose all of the eight colors of yarn. Color-blind children may not be able to sort colors according to the six colors used in this study, however, they were permitted to complete the test without comment from the investigator.

## Environmental Controls

The environmental controls as developed by Easterling (1974) were the same for the present study and were consistent for the color screening test and the four color preference tests. The child was seated at a table covered with a neutral gray cloth that covered the area directly in front of the child. The container which the stimulus objects were cast from was neutral gray. The experimenter wore black, gray and/or white clothing to avoid influencing a child's preference for any particular color. Artificial lighting provided by a flourescent desk lamp that substituted for average daylight was used when testing the children.

## Administering the Tests

The method of simultaneous presentation was utilized for the four tests. After establishing rapport, the experimenter explained to the child the procedure for Test 1 . When talking with the child, the experimenter assumed the terms preferred, most liked, favorite, and prettiest to be synonymous (Easterling, 1974, p. 33). The responses of the child in Tests 1-4 were recorded as the responses were made on a record sheet (Appendix).

The stimulus objects were cast from the container to the table so that the child chose the color preferred. The child took as much time as he needed to choose the preferred color and touch or pick up the objects to examine them. He handed the object to the examiner when the preferred color for that stimulus object had been chosen. This procedure continued until the child had chosen all of the colors for
stimulus objects in order of his preference.
Immediately following Test 1, the procedure for Test 2 was explained to the child. The stimulus objects were presented in the following sequence: pair of house shoes, coat, gir1's dress, boy's jumpsuit, teddy bear, ball, tricycle, and rocking horse. As in Test 1 , the stimulus objects were cast from the container onto the table for the child to examine. Test 2 required the subject to choose his preferred color and hand it to the examiner. The examiner collected the objects left on the table and prepared for the next object to be tested. This procedure continued until all of the stimulus objects had been tested.

The procedure for Test 3 was explained to the child. The stimulus objects for this test were presented in the following order: bed, chair, dresser, and lamp. As in previous tests, the stimulus objects were cast from the container onto the table. The child chose his preferred color and handed it to the examiner. The objects left on the table were collected by the experimenter or the child and prepared for the next object to be tested. This procedure continued until all of the stimulus objects had been presented.

The procedure for Test 4 was explained to the child and, as in previous tests, the pictures were presented simultaneously in random order. Test 4 required the child to choose the preferred picture which reflected his preference for a color of room decor.

After a child had been examined, a sibling was administered the color preference test. The results were used to determine the relationship between sibling and subjects' color preferences.

## CHAPTER IV

ANALYSIS OF DATA

The overall purpose of this study was to determine the color preferences of young children and to determine if children's color preferences were related to (1) their choice of furniture and room decor, and (2) their sibling's color preferences. Another purpose of this study was to determine the consistency of color preference when preschool aged children are tested and retested at least six months later concerning their color preference and their preference for color of clothes and toys.

## Subjects

Table I presents the distribution by age and sex of the children studied by Easterling (1974) and by this investigator six months later. Siblings of the subjects were asked"their color preferences to determine the relationship between color preferences of the subjects and their siblings. The difference in number of subjects between the initial and final testing periods as shown in Table I was due to the fact that some of the subjects were not available for retesting six months later. The total number of subjects retested six months later was 78 , and the siblings of this group of children. The children tested were enrolled in nursery schools, day care centers and child development laboratories in Stillwater, Oklahoma.

TABLE I

NUMBER OF CHILDREN STUDIED FOR COLOR PREFERENCES BY AGE AND SEX ON THE TEST-RETEST SIX MONTHS LATER

$$
\mathrm{N}=78
$$

|  | Threes |  | Fours |  | Fives |  | Total |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | $\mathrm{E}^{*}$ | $\mathrm{~S}^{*}$ | E | S | E | S | E | S |
| Boys | 14 | 10 | 15 | 12 | 16 | 15 | 45 | 37 |
| Girls | 15 | 10 | 21 | 17 | 16 | 14 | 52 | 41 |
| Total | 29 | 20 | 36 | 29 | 32 | 29 | 97 | 78 |

```
E = Easterling's (1974) Data
* S = Streight's Data
```

Findings

Hypothesis 1. There is no difference in the color preferences of three-, four-, and five-year-olds classified according to sex when retested six months later.

Data in Tables II, III, and IV reveal that children's color preferences, in general, had not changed when retested six months later. Even though there were inconsistencies in some children's preferences for color, violet remained the most preferred color after a six month interval. However, three-year-old boys and girls did not show a consistency in any color preference after a six month period. Regarding the least preferred color, Easterling (1974) found the color to be orange, six months later yellow was the least chosen with only one less response than orange.

## TABLE II

COLOR PREFERENCES OF YOUNG CHILDREN ACCORDING TO AGE and SEX RETESTED SIX MONTHS LATER

$$
\mathrm{N}=78
$$

| $\cdots$ | Number of Responses |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | ${ }_{E^{*}}^{\text {No. }}{ }_{S^{*}}$ |  | Red |  | Orange |  | Yellow |  | Green |  | Blue |  | Violet |  |
|  |  |  | E | S | E | S | E | S | E | S | E | S | E | S |
| BOYS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Threes | 14 | 10 | 1 | 2 | 0 | 2 | 2 | 0 | 2 | 1 | 3 | 3 | 6 | 2 |
| Fours | 15 | 12 | 6 | 2 | 1 | 2 | 1 | 0 | 2 | 1 | 0 | 2 | 5 | 5 |
| Fives | 16 | 15 | 2 | 5 | 0 | 2 | 0 | 1 | 3 | 0 | 6 | 2 | 5 | 5 |
| GIRLS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Threes | 15 | 10 | 0 | 4 | 1 | 1 | 3 | 1 | 3 | 2 | 1 | 0 | 7 | 2 |
| Fours | 21 | 17 | 2 | 0 | 0 | 1 | 6 | 3 | 4 | 3 | 3 | 4 | 6 | 6 |
| Fives | 16 | 14 | 4 | 3 | 1 | 1 | 4 | 3 | 1 | 2 | 0 | 1 | 6 | 4 |
|  | 97 | 78 | 15 | 16 | 3 | 9 | 16 | 8 | 15 | 9 | 13 | 12 | 35 | 24 |
| * E = Easterling's (1974) Data |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{*} \mathrm{~S}=\mathrm{Stre}$ | ght | s Dat |  |  |  |  |  |  |  |  |  |  |  |  |

TABLE III
RANK ORDER OF CHILDREN'S FIRST PREFERENCES FOR COLOR RETESTED
SIX MONTHS LATER ACCORDING TO AGE AND SEX $N=78$

|  |  | No. | Rank Order of Responses |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Violet | Green | Yellow | Red | Blue. | Orange |
| BOYS |  |  |  |  |  |  |  |  |
| Threes: | $\mathrm{E}_{*}^{*}$ | 14 | 1.0 | 3.5 | 3.5 | 5.0 | 2.0 | 6.0 |
|  | S* | 10 | 3.0 | 5.0 | 6.0 | 3.0 | 1.0 | 3.0 |
| Fours: | E | 15 | 2.0 | 3.0 | 4.5 | 1.0 | 6.0 | 4.5 |
|  | S | 12 | 1.0 | 5.0 | 6.0 | 3.0 | 3.0 | 3.0 |
| Fives: | E | 16 | 2.0 | 3.0 | 5.5 | 4.0 | 1.0 | 5.5 |
|  | S | 15 | 1.0 | 6.0 | 5.0 | 2.0 | 3.5 | 3.5 |
| GIRLS |  |  |  |  |  |  |  |  |
| Threes: | E | 15 | 1.0 | 2.5 | 2.5 | 6.0 | 4.5 | 4.5 |
|  | S | 10 | 2.5 | 2.5 | 4.5 | 1.0 | 6.0 | 4.5 |
| Fours: | E | 21 | 1.5 | 3.0 | 1.5 | 5.0 | 4.0 | 6.0 |
|  | S | 17 | 1.0 | 3.5 | 3.5 | 6.0 | 2.0 | 5.0 |
| Fives: | E | 16 | 1.0 | 4.5 | 2.5 | 2.5 | 6.0 | 4.5 |
|  | S | 14 | 1.0 | 4.0 | 2.5 | 2.5 | 5.5 | 5.5 |
| MEAN | E |  | 1.0 | 2.0 | 3.0 | 4.5 | 4.5 | 6.0 |
|  | S |  | 1.0 | 4.5 | 6.0 | 2.0 | 3.0 | 4.5 |

TABLE IV
AGREEMENT OF YOUNG CHILDREN'S COLOR PREFERENCES RANKED ACCORDING TO AGE AND SEX RETESTED SIX MONTHS LATER
$\mathrm{N}=78$

$\omega$

Hypothesis 2. There is no difference in the color preferences of children classified according to age when retested six months 1ater.

Data in Tables $V$ and $V I$ indicate that with the exception of three-year-olds the subjects chose violet as a first choice, with red and blue as second and third choices. Yellow was the least preferred color in this study as contrasted with orange at the testing six months earlier. Table VI reflects ranking of the children's color preferences and showed a first preference for violet, except for the three-year-olds who again chose red. Overall, red and blue were second and third choices.

## TABLE V

$$
\begin{gathered}
\text { AGREEMENT OF YOUNG CHILDREN'S COLOR PREFERENCES ACCORDING } \\
\text { TO AGE RETESTED SIX MONTHS LATER } \\
N=78
\end{gathered}
$$

|  | No. |  | Number of Responses |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Red |  | Orange |  | Yellow |  | Green |  | Blue |  | Violet |  |
|  | E* | S* | E | S | E | S | E | S | E | S | E | S | E | S |
| Threes | 29 | 20 | 1 | 6 | 1 | 3 | 5 | 1 | 5 | 3 | 4 | 3 | 13 | 4 |
| Fours | 36 | 29 | 8 | 2 | 1 | 3 | 7 | 3 | 6 | 4 | 3 | 6 | 11 | 11 |
| Fives | 32 | 29 | 6 | 8 | 1 | 3 | 4 | 4 | 4 | 2 | 6 | 3 | 11 | 9 |
| TOTAL | 97 | 78 | 15 | 16 | 3 | 9 | 16 | 8 | 15 | 9 | 13. | 12 | 35 | 24 |

[^0]
## TABLE VI

AGREEMENT OF YOUNG CHILDREN'S COLOR PREFERENCES RANKED ACCORDING TO AGE RETESTED SIX MONTHS LATER

$$
\mathrm{N}=78
$$

|  | No. |  | Rank Order of Responses |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Red |  | Orange |  | Yellow |  | Green |  | Blue |  | Violet |  |
|  | E* | S* | E | S | E | S | E | S | E | S | E | S | E | S |
| Threes | 29 | 20 | 5.5 | 1.0 | 5.5 | 4.0 | 2.5 | 6.0 | 2.5 | 4.0 | 4.0 | 4.0 | 1.0 | 2.0 |
| Fours | 36 | 29 | 2.0 | 6.0 | 6.0 | 4.5 | 3.0 | 4.5 | 4.0 | 3.0 | 5.0 | 2.0 | 1.0 | 1.0 |
| Fives | 32 | 29 | 2.5 | 2.0 | 6.0 | 4.5 | 4.5 | 3.0 | 4.5 | 6.0 | 2.5 | 4.5 | 1.0 | 1.0 |
| MEAN |  |  | 3.5 | 2.0 | 6.0 | 4.5 | 2.0 | 6.0 | 3.5 | 4.5 | 5.0 | 3.0 | 1.0 | 1.0 |

${ }^{*} E=$ Easterling's (1974) Data
*S $=$ Streight's Data

Hypothesis 3. There is no difference in color preferences according to age and sex when retested six months later for color preferences of clothes and toys.

An examination of Table VII revealed that the young children's agreement between their first color preference and their choice of color for clothes when retested six months later is low for different age and sex groups, ranging from 23 percent to 31 percent. Table VII, also, revealed the agreement for the young children's first color preference and their choice of color for toys was low, ranging from 18 percent to 27 percent overall. The young children's agreement between their color preferences and their choices of color for clothes and toys six months later indicated that three-year-old boys continue to have the lowest agreement while the three-year-old girls have the highest agreement. Four- and five-year-old boys continued to have a higher agreement than four- and five-year-old girls.

Table VIII reflects the consistency with which the children chose colors for clothes and toys as related to their first color preference when retested six months later. Six months earlier, violet was first. When retested violet was first with most individual groups, but a close second to red as an overall choice. Tables $I X$ and $X$ reflect the first color preferences of the young children for specific toys and clothes. Violet was selected more often by both boys and girls at each age level for clothes in general (Table IX), although the children sometimes selected one of the other five colors for a clothing item as revealed in Table IX. Tables XI and XII reflect mean preferences for clothes and toys in ranked order. Red rather than purple was the first choice overall for toys. Table X indicates the first preference of a color for a

## TABLE VII

AGREEMENT REFLECTING RELATIONSHIP BETWEEN TEST-RETEST SIX MONTHS LATER OF YOUNG CHILDREN'S COLOR PREFERENCES ACCORDING TO AGE AND SEX

$$
\mathrm{N}=78
$$

|  | E* | $s^{*}$ | First <br> Preference | Clothes |  |  |  | Toys |  |  |  | Mean |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Shoes | Coat | Dress | Overalls | Bear | Ball | Trike | Horse |  |
| BOYS |  |  |  |  |  |  |  |  |  |  |  |  |
| Threes | 14 | 10 | . 20 | . 10 | . 10 | . 20 | . 20 | . 00 | . 10 | . 10 | . 10 | . 12 |
| Fours | 15 | 10 | . 66 | . 16 | . 25 | . 25 | . 41 | . 25 | . 16 | . 41 | . 50 | . 32 |
| Fives | 16 | 15 | . 33 | . 40 | . 26 | . 26 | . 26 | . 40 | . 40 | . 13 | . 20 | . 28 |
| GIRLS |  |  |  |  |  |  |  |  |  |  |  |  |
| Threes | 15 | 10 | . 10 | . 40 | . 80 | . 30 | . 30 | . 40 | . 30 | . 20 | . 30 | . 34 |
| Fours | 21 | 17 | . 52 | . 29 | . 11 | . 17 | . 11 | . 17 | . 23 | . 17 | . 17 | . 21 |
| Fives | 16 | 14 | . 42 | . 21 | . 35 | . 42 | . 14 | . 42 | . 14 | . 07 | . 28 | . 27 |
| MEAN |  |  | . 37 | . 26 | . 31 | . 26 | . 23 | . 27 | . 22 | . 18 | . 25 |  |

*E = Easterling's (1974) Data
*S $=$ Streight's Data

## TABIE VIII

COLORS RANKED ACCORDING TO YOUNG CHILDREN'S FIRST PREFERENCES FOR COLOR, CLOTHES, AND TOYS ACCORDING TO AGE AND

SEX ON TEST-RETEST SIX MONTHS LATER

$$
N=78
$$

| First Preference | $\mathrm{E}^{*}{ }^{\text {No }} \mathrm{S}^{*}$ |  | Violet |  | Red |  | Green |  | Yellow |  | Blue |  | Orange |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | E | S | E | S | E | S | E | S | E | S | E | S |
| BOYS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Threes | 14 | 10 |  |  |  |  |  |  |  |  |  |  |  |  |
| for color |  |  | 1.0 | 3.0 | 5.0 | 3.0 | 3.5 | 5.0 | 3.5 | 6.0 | 2.0 | 1.0 | 6.0 | 3.0 |
| color of clothes |  |  | 1.0 | 1.0 | 4.5 | 2.5 | 3.0 | 4.0 | 2.0 | 5.0 | 4.5 | 2.5 | 6.0 | 6.0 |
| color of toys |  |  | 1.0 | 4.5 | 2.0 | 2.5 | 4.0 | 2.5 | 5.0 | 4.5 | 6.0 | 1.0 | 3.0 | 6.0 |
| Fours | 15 | 12 |  |  |  |  |  |  |  |  |  |  |  |  |
| for color |  |  | 2.0 | 1.0 | 1.0 | 3.0 | 3.0 | 5,0 | 4.5 | 6.0 | 6.0 | 3.0 | 4.5 | 3.0 |
| color of clothes |  |  | 1.0 | 1.0 | 2.0 | 3.0 | 3.0 | 5.5 | 4.5 | 3.0 | 6.0 | 5.5 | 4.5 | 3.0 |
| color of toys |  |  | 2.0 | 1.0 | 1.0 | 2.0 | 3.0 | 5.0 | 6.0 | 4.0 | 5.0 | 6.0 | 4.0 | 3.0 |
| Fives | 16 | 15 |  |  |  |  |  |  |  |  |  |  |  |  |
| for color |  |  | 2.0 | 1.0 | 4.0 | 2.0 | 3.0 | 6.0 | 5.5 | 5.0 | 1.0 | 3.5 | 5.5 | 3.5 |
| color of clothes |  |  | 1.0 | 2.0 | 3.0 | 1.0 | 4.0 | 4.0 | 6.0 | 5.0 | 2.0 | 3.0 | 5.0 | 6.0 |
| color of toys |  |  | 2.0 | 2.0 | 4.0 | 1.0 | 3.0 | 6.0 | 6.0 | 5.0 | 1.0 | 3.0 | 5.0 | 4.0 |
| GIRLS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Threes | 15 | 10 |  |  |  |  |  |  |  |  |  |  |  |  |
| for color |  |  | 1.0 | 2.5 | 6.0 | 1.0 | 2.5 | 2.5 | 2.5 | 4.5 | 4.5 | 6.0 | 4.5 | 4.5 |
| color of clothes |  |  | 1.0 | 1.0 | 2.0 | 2.0 | 3.0 | 6.0 | 6.0 | 3.0 | 4.5 | 4.5 | 4.5 | 4.5 |
| color of toys |  |  | 1.0 | 5.0 | 2.0 | 1.0 | 5.0 | 3.5 | 3.0 | 3.5 | 6.0 | 6.0 | 4.0 | 2.0 |
| Fours | 21 | 17 |  |  |  |  |  |  |  |  |  |  |  |  |
| for color |  |  | 1.5 | 1.0 | 5.0 | 6.0 | 3.0 | 3.5 | 1.5 | 3.5 | 4.0 | 2.0 | 6.0 | 5.0 |
| color of clothes |  |  | 1.0 | 3.5 | 2.0 | 1.5 | 4.0 | 5.5 | 3.0 | 1.5 | 5.0 | 5.5 | 6.0 | 3.5 |
| color of toys |  |  | 3.0 | 4.0 | 1.5 | 3.0 | 5.0 | 5.5 | 1.5 | 1.0 | 4.0 | 2.0 | 6.0 | 5.5 |
| Fives | 16 | 14 |  |  |  |  |  |  |  |  |  |  |  |  |
| for color |  |  | 1.0 | 1.0 | 2.5 | 2.5 | 4.5 | 4.0 | 2.5 | 2.5 | 6.0 | 5.5 | 4.5 | 5.5 |
| color of clothes |  |  | 1.0 | 1.0 | 2.0 | 4.5 | 3.5 | 6.0 | 5.0 | 4.5 | 3.5 | 2.5 | 6.0 | 2.5 |
| color of toys |  |  | 1.0 | 1.5 | 4.5 | 1.5 | 6.0 | 6.0 | 2.0 | 3.0 | 4.5 | 4.5 | 3.0 | 4.5 |
| MEAN RANK |  |  | 1.0 | 2.0 | 2.0 | 1.0 | 3.0 | 6.0 | 4.0 | 4.0 | 5.0 | 3.0 | 6.0 | 5.0 |

${ }^{*}{ }_{E}=$ Easterling's (1974) Data
*s = Streight's Data

TABLE IX

$$
\begin{gathered}
\text { YOUNG CHILDREN'S COLOR PREFERENCES FOR SPECIFIC } \\
\text { CLOTHES SIX MONTHS LATER } \\
\mathrm{N}=78
\end{gathered}
$$



TABLE X

$$
\begin{gathered}
\text { YOUNG CHILDREN'S COLOR PREFERENCES FOR SPECIFIC } \\
\text { TOYS SIX MONTHS LATER } \\
N=78
\end{gathered}
$$

|  | $E_{E^{*}}^{\text {No }} S^{*}$ | Color Preferences for Specific Toys |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Bear |  | Ba11 |  | Trike |  | Horse |  |
|  |  | E | S | E | S | E | S | E | S |
| BOYS |  |  |  |  |  |  |  |  |  |
| Threes | 1410 | R,Y,G, ${ }^{1,2}$ | R, B | V | B | G, B | G, B | 0 | Y |
| Fours | 1512 | V | V,Y | R,V | R,0 | R | V |  | $\mathrm{V}, \mathrm{R}$ |
| Fives | 1615 | B, V | R | B | B | B | 0 | G | $\mathrm{V}, \mathrm{R}$ |
| GIRLS |  |  |  |  |  |  |  |  |  |
| Threes | 1510 | V | V,R,G, B | V | R | V | R | V | 0 |
| Fours | $21 \quad 17$ | Y | Y | R | B | Y | R,G | R | Y |
| Fives | $16 \quad 14$ | Y,V | R, Y | V | 0 | V | V,R | V | Y |
| $1_{R}=$ red; $Y=$ yellow; $G=$ green; $V=$ violet; $B=$ blue; $0=$ orange. |  |  |  |  |  |  |  |  |  |
| ${ }^{2}$ When more than one color is indicated, an equal number of choices were made for those colors. |  |  |  |  |  |  |  |  |  |
| * $\mathrm{E}=$ Easterling's (1974) Data |  |  |  |  |  |  |  |  |  |
| * $\mathrm{S}=$ Streight's Data |  |  |  |  |  |  |  |  |  |

TABLE XI
RANK ORDER OF CHILDREN'S FIRST PREFERENCES FOR COLOR OF CLOTHING SIX MONTHS LATER ACCORDING TO AGE AND SEX

$$
\mathrm{N}=78
$$

|  |  | No. | Rank Order of Responses |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Violet | Red | Blue | Green | Yellow | Orange |
| BOYS * |  |  |  |  |  |  |  |  |
| Threes: | $\mathrm{E}_{*}$ | 14 | 1.0 | 4.5 | 4.5 | 3.0 | 2.0 | 6.0 |
|  | S | 10 | 1.0 | 2.5 | 2.5 | 4.0 | 5.0 | 6.0 |
| Fours: | E | 15 | 1.0 | 2.0 | 6.0 | 3.0 | 4.5 | 4.5 |
|  | S | 12 | 1.0 | 3.0 | 5.5 | 5.5 | 3.0 | 3.0 |
| Fives: | E | 16 | 1.0 | 3.0 | 2.0 | 4.0 | 6.0 | 5.0 |
|  | S | 15 | 2.0 | 1.0 | 3.0 | 4.0 | 5.0 | 6.0 |
| GIRLS |  |  |  |  |  |  |  |  |
| Threes: | E | 15 | 1.0 | 2.0 | 4.5 | 3.0 | 6.0 | 4.5 |
|  | S | 10 | 1.0 | 2.0 | 4.5 | 6.0 | 3.0 | 4.5 |
| Fours: | E | 21 | 1.0 | 2.0 | 5.0 | 4.0 | 3.0 | 6.0 |
|  | S | 17 | 3.5 | 1.5 | 5.5 | 5.5 | 1.5 | 3.5 |
| Fives: | E | 16 | 1.0 | 2.0 | 3.5 | 3.5 | 5.0 | 6.0 |
|  | S | 14 | 1.0 | 4.5 | 2.5 | 6.0 | 4.5 | 2.5 |
| MEAN |  |  |  |  |  |  |  |  |
|  | E |  | 1.0 | 2.0 | 3.5 | 3.5 | 5.0 | 6.0 |
|  | S |  | 1.0 | 2.0 | 3.0 | 6.0 | 4.0 | 6.0 |
| *E = Easterling's (1974) Data |  |  |  |  |  |  |  |  |
| ${ }^{*} \mathrm{~S}=$ Streight's Data |  |  |  |  |  |  |  |  |

TABLE XII

RANK ORDER OF CHILDREN'S FIRST PREFERENCES FOR COLOR OF TOYS SIX MONTHS LATER ACCORDING TO AGE AND SEX

$$
N=78
$$

|  |  | No. | Rank Order of Responses |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Violet | Red | Yellow | Orange | Green | Blue |
| BOYS * |  |  |  |  |  |  |  |  |
| Threes: | $E_{*}^{*}$ |  | 14 | 1.0 | 2.0 | 5.0 | 3.0 | 4.0 | 6.0 |
|  | $S^{*}$ | 10 | 4.5 | 2.5 | 4.5 | 6.0 | 2.5 | 1.0 |
| Fours: | E | 15 | 2.0 | 1.0 | 6.0 | 4.0 | 3.0 | 5.0 |
|  | S | 12 | 1.0 | 2.0 | 4.0 | 3.0 | 5.0 | 6.0 |
| Fives: | E | 16 | 2.0 | 4.0 | 6.0 | 5.0 | 3.0 | 1.0 |
|  | S | 15 | 2.0 | 1.0 | 5.0 | 4.0 | 6.0 | 3.0 |
| GIRLS |  |  |  |  |  |  |  |  |
| Threes: | E | 15 | 1.0 | 2.0 | 3.0 | 4.0 | 5.0 | 6.0 |
|  | S | 10 | 5.0 | 1.0 | 3.5 | 2.0 | 3.5 | 6.0 |
| Fours: | E | 21 | 3.0 | 1.5 | 1.5 | 6.0 | 5.0 | 4.0 |
|  | S | 17 | 4.0 | 3.0 | 1.0 | 5.5 | 5.5 | 2.0 |
| Fives: | E | 16 | 1.0 | 4.5 | 2.0 | 3.0 | 6.0 | 4.5 |
|  | S | 14 | 1.5 | 1.5 | 3.0 | 4.5 | 6.0 | 4.5 |
| MEAN |  |  |  |  |  |  |  |  |
|  | E |  | 1.0 | 2.0 | 3.0 | 4.0 | 5.0 | 6.0 |
|  | S |  | 2.0 | 1.0 | 4.0 | 5.0 | 6.0 | 3.0 |
| ${ }^{*} \mathrm{E}=$ Easterling's (1974) Data |  |  |  |  |  |  |  |  |
| ${ }^{*} \mathrm{~S}=$ Streight's Data |  |  |  |  |  |  |  |  |

specific toy.
Hypothesis 4. There is no relationship between the color preferences of young children and their choice of color for specific bedroom furniture and bedroom decor according to age and sex.

An examination of Table XIII indicates that agreement between first color preference and choice of color of furniture was low, ranging from 28 percent to 65 percent for the different age and sex groups. Table XIII also reveals that the agreement for young children's first preference and their choice of color for room decor is low, ranging from 20 percent to 50 percent.

Reflecting the young children's agreement between their color preferences and room decor, Table XIII shows that three-year-olds have the lowest agreement. Four-year-old boys have the highest agreement between their first color preference and their choice of color for furniture. Both the four-year-old boys and the five-year-old boys have a higher agreement for furniture and room decor than the four-year-old and five-year-old girls with one exception. The five-year-old girls have a higher agreement for room decor than the five-year-old boys.

Table XIV reflects the consistency with which the children choose colors for specific furniture and bedroom decor as related to their first color preference. The ranked order of color preferences was violet, red, blue, orange, green and yellow. The data in this table also indicate that violet was a highly preferred choice for four- and five-year-old boys and three-year-old girls. Red was a first choice for five-year-old girls. Violet continued to be selected as the children's first color preference in general more of ten than any color.

TABLE XIII
AGREEMENT BETWEEN CHILDREN'S FIRST COLOR PREFERENCE AND
COLOR PREFERENCE FOR FURNITURE AND ROOM DECOR $\mathrm{N}=78$

|  | No. | Color Preference-Furniture Agreements |  | Color Preference-- <br> Room Decor Agreements |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Number of Agreements | Percent of Agreements | Number of Agreements | Percent of Agreements |
| BOYS |  |  |  |  |  |
| Threes | 10 | 13 | . 33 | 2 | . 20 |
| Fours | 12 | 26 | . 65 | 6 | . 50 |
| Fives | 15 | 19 | . 48 | 6 | . 40 |
| GIRLS |  |  |  |  |  |
| Threes | 10 | 11 | . 28 | 3 | . 30 |
| Fours | 17 | 18 | . 45 | 6 | . 35 |
| Fives | 14 | 17 | . 43 | 7 | . 50 |

TABLE XIV
COLORS RANKED ACCORDING TO YOUNG CHILDREN'S FIRST PREFERENCES FOR COLOR, FURNITURE, BEDROOM DECOR ACCORDING TO AGE AND SEX
$\mathrm{N}=78$

| First Preference | No. | Rank Order of Responses |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Violet | Red | Green | Yellow | Blue | Or ange |
| BOYS |  |  |  |  |  |  |  |
| Threes | 10 |  |  |  |  |  |  |
| for color |  | 3.0 | 3.0 | 5.0 | 6.0 | 1.0 | 3.0 |
| color of furniture |  | 1.0 | 2.0 | 5.0 | 6.0 | 4.0 | 3.0 |
| bedroom decor |  | 5.0 | 2.0 | 6.0 | 1.0 | 4.0 | 3.0 |
| Fours | 12 |  |  |  |  |  |  |
| for color |  | 1.0 | 3.0 | 5.0 | 6.0 | 3.0 | 4.5 |
| color of furniture |  | 1.0 | 2.5 | 5.0 | 6.0 | 2.5 | 4.0 |
| bedroom decor |  | 1.0 | 4.5 | 6.0 | 2.5 | 2.5 | 4.5 |
| Fives | 15 |  |  |  |  |  |  |
| for color |  | 1.0 | 2.0 | 6.0 | 5.0 | 3.5 | 3.5 |
| color of furniture |  | 2.0 | 3.0 | 4.5 | 6.0 | 1.0 | 4.5 |
| bedroom decor |  | 2.0 | 3.0 | 5.5 | 5.5 | 1.0 | 4.0 |
| GIRLS |  |  |  |  |  |  |  |
| Threes | 10 |  |  |  |  |  |  |
| for color |  | 2.5 | 1.0 | 2.5 | 4.5 | 6.0 | 4.5 |
| color of furniture |  | 1.5 | 1.5 | 3.0 | 4.0 | 5.0 | 6.0 |
| bedroom decor |  | 1.0 | 2.0 | 4.0 | 4.0 | 6.0 | 4.0 |
| Fours | 17 |  |  |  |  |  |  |
| for color |  | 1.0 | 6.0 | 3.5 | 3.5 | 2.0 | 5.0 |
| color of furniture |  | 3.0 | 2.0 | 6.0 | 1.0 | 4.5 | 4.5 |
| bedroom decor |  | 5.5 | 2.0 | 5.5 | 1.0 | 3.5 | 3.5 |
| Fives | 14 |  |  |  |  |  |  |
| for color |  | 1.0 | 2.5 | 4.0 | 2.5 | 5.5 | 5.5 |
| color of furniture |  | 4.0 | 1.0 | 5.5 | 3.0 | 2.0 | 5.5 |
| bedroom decor |  | 1.5 | 1.5 | 4.0 | 3.0 | 5.0 | 6.0 |
| MEAN RANK |  | 1.0 | 2.0 | 5.0 | 6.0 | 3.0 | 4.0 |

Tables XV and XVI reflect first color preferences for specific furniture and bedroom decor. When selecting specific bedroom furniture (bed, chair, dresser, lamp), the children selected violet more often and occasionally selected another color as a first color preference. Table XVI indicates that the children chose violet as their first preference for bedroom decor. For children in general, the rank order of preferences for bedroom decor was violet, red, yellow, blue, orange, and green; exceptions were three-year-old boys and four-year-old girls who chose yellow and red as their first and second choices and five-year-old boys who chose blue rather than purple.

TABLE XV

$$
\begin{gathered}
\text { RESPONSES OF YOUNG CHILDREN REFLECTING COLOR PREFERENCES } \\
\text { FOR SPECIFIC BEDROOM FURNITURE } \\
\qquad \mathrm{N}=78
\end{gathered}
$$



TABLE XVI
COLOR PREFERENCES OF YOUNG CHILDREN FOR BEDROOM DECOR ACCORDING TO AGE AND SEX
$\mathrm{N}=78$

|  |  | Number of Responses |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. | Red | Orange | Yellow | Green | Blue | Violet |  |
| BOYS |  |  |  |  |  |  |  |  |
| Threes | 10 | 3 | 2 | 4 | 0 | 1 | 0 |  |
| Fours | 12 | 1 | 1 | 2 | 0 | 2 | 6 |  |
| Fives | 15 | 3 | 2 | 0 | 1 | 5 | 4 |  |
|  |  |  |  |  |  |  |  |  |
| GIRLS |  |  |  |  | 1 | 0 | 4 |  |
| Threes | 10 | 3 | 1 | 1 | 1 | 3 | 1 |  |
| Fours | 17 | 4 | 3 | 5 | 1 | 4 |  |  |
| Fives | 14 | 4 | 0 | 3 | 2 | 1 | 4 |  |
| TOTAL | 78 | 18 | 9 | 15 | 5 | 12 | 19 |  |

Hypothesis 5. There is no difference between the color preferences of young children and the color preferences of their siblings.

The data in Table XVII indicate low agreement of color preferences between subjects and their siblings. Agreement between subjects and their brothers ranged from zero to 33 percent, while agreement between subjects and sisters ranged from zero to 66 percent. These results indicate there is a marked difference between the color preferences of young children and the color preferences of their siblings (Appendix B).

In summary, (1) violet remained the first color preference for children when tested and retested six months later with yellow and orange as the least preferred colors. (2) Three-year-olds were the least consistent of all children in their color preferences regardless

TABLE XVII
COLOR PREFERENCE AGREEMENT BETWEEN YOUNG CHILDREN AND THEIR SIBLINGS
$\mathrm{N}=17 \%$
$\mathrm{N}=24$ *

|  |  | No. | Number of Agreements | Percent of Agreements |
| :---: | :---: | :---: | :---: | :---: |
| BOYS ${ }^{\text {d }}$ * |  |  |  |  |
| Threes: | $S_{*}^{*}$ | 2 | 0 | . 00 |
|  | B | 1 | 0 | . 00 |
| Fours: | S | 3 | 2 | . 66 |
|  | B | 4 | 0 | . 00 |
| Fives: | S | 4 | 1 | . 25 |
|  | B | 3 | 0 | . 00 |
| GIRLS |  |  |  |  |
| Threes: | S | 1 | 0 | . 00 |
|  | B | 3 | 0 | . 00 |
| Fours: | S | 5 | 1 | . 20 |
|  | B | 10 | 0 | . 00 |
| Fives: | S | 2 | 0 | . 00 |
|  | B | 3 | 1 | . 33 |

[^1]of first color preference, or preferences for clothes, toys, furniture and room decor. (3) The consistency of children's color preferences when tested and retested six months later for clothes and toys was low. (4) Children's color preferences when compared with color preferences for furniture and room decor was low. (5) The relationship between subjects and siblings color preferences was low. (6) The subjects examined by this investigator consistently chose violet, red, and blue in this order.

## CHAPTER V

SUMMARY, FINDINGS, IMPLICATIONS, AND RECOMMENDATIONS

The purpose of this study was to determine the color preferences of young children and to determine if children's color preferences were related to their color preferences for furniture and room decor and their sibling's color preferences. This study was a follow-up of the children studied by Easterling (1974) to determine the consistency of color preference at least six months later concerning their color preference for clothes and toys. Subjects for this study were 78 three-, four-, and five-year-old children and their siblings.

## Major Findings

1. When classified according to age and sex, children's color preferences, in general, had not changed when retested six months later.
2. Violet remained the most preferred color of young children after a six month interval.
3. Three-year-olds were least consistent in their color preferences after a six month interval.
4. There was low relationship between young children's color preferences and their choice of color for $c$ lothes and toys six months later.
5. There was low relationship between young children's color preferences and their choice of color for furniture and room decor.
6. There was a marked difference between the color preferences of young children and their sibling's color preferences.
7. The subjects examined by this investigator consistently chose violet, red, and blue in this order.

## Imp1ications

The following implications seem to have relevance from the findings of this study:

1. Manufacturers should utilize the color violet more often in their production of children's clothes, toys, and furniture.
2. Parents and teachers should provide opportunities for young children to have violet among their choices for art activities.
3. Children should be offered a wide selection of colors to make their own personal choices.
4. Teachers of young children should offer a variety of colors in self-selected activities; i.e., housekeeping area props, classification activities, flannelboard story figures, bulletin board displays, and name tags.
5. Parents should provide opportunities for children to select the decor for their own bedroom, Children commented that they like choosing their favorite color for their own rooms.

Recommendations

The following suggestions for further research are recommended:

1. This study should be repeated on a larger sample.
2. Children's color preferences for specific stimuli other than "clothes, toys, furniture and room decor should be explored.
3. Elementary school age children should be studied to examine the consistency of their color preferences.
4. The influence of a parent or teacher on children's color preferences should be examined.
5. Study should be done concerning young children's color preferences as related to opposite sex (Will a girl choose the same color for a boy that she chose for herself?)
6. This study should be repeated using more colors (children mentioned liking brown, black, white, pink).
7. Children's preferred toys, clothes, furniture should be examined to determine this influence on color preference.
8. Recognizing the sample may be small, this study should be replicated when the subjects are elementary school age.

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APPENDIX A

Lab $\qquad$

Easterling Color Screening Test (ECST)


NOTES:

Lab $\qquad$ RECORD SHEET

## Color Preference Test

Name $\qquad$ Age $\qquad$ Sex $\qquad$
Color of clothes child is wearing $\qquad$

Test 1

Write the numerals $1,2,3,4,5,6$ beside the following colors in the order the child indicates his preference.
R $\qquad$ Y $\qquad$
$\qquad$ BL $\qquad$ V $\qquad$

NOTES:

Test 2 and Test 3

Write the names of the colors that the child chooses as his first choice for each of the following objects as they are presented.

| House Shoes | Teddy Bear | Bed |
| :---: | :---: | :---: |
| Coat | Ball | Chair |
| Gir1's Dress | Tricycle | Dresser |
| Boy's Jumpsuit | Rocking Horse | Lamp |

Test 4

Write the numeral 1 beside the color of bedroom the child indicates as his preference.
$\mathrm{R}_{2} \mathrm{O} \quad \mathrm{Y} \quad \mathrm{G} \quad \mathrm{BL} \quad \mathrm{V}$
NOTES:

## Dear Parents:

I am a graduate student in Early Childhood Education, Department of Family Relations and Child Development, and am currently involved in a follow-up of Jeanette Easterling's research which concerned young children's color preferences. This study is to determine the stability of young children's color preferences and if there is a trend for young children to prefer a particular color. My study also involves personal preferences. There are no "right" or "wrong" answers.

Another purpose of this study is to learn the brother's and sister's color preferences. If you agree to have the brothers and sisters of your child who is or was enrolled in the Child Development Laboratory participate in this study, please indicate by signing this letter and returning it to your child's teacher.

I will contact you by telephone to arrange a convenient time in your home or at the Child Development Laboratory to talk with your child and his brothers and sisters. When this study is completed you will be given the results of both studies.

Sincerely,

Kathy Streight
Graduate Assistant

Josephine Hoffer
Adviser
Dept. of Family Relations \& Child Development

Parent's Signature $\qquad$

APPENDIX B

ORIGINAL FOLLOW-UP COLOR PREFERENCES FOR THREE-YEAR-OLD BOYS

$$
N=10
$$

|  |  | First Color <br> Preference | Clothes |  |  |  | Toys |  |  |  | Furniture |  |  |  | Bedroom Decor Bedroom |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Shoes | Coat | Dress | Overalls | Bear | Ball | Trike | Horse | Bed | Chair | Dresser | Lamp |  |
| 1. $\mathrm{E}^{*}{ }^{*}$ |  | $v^{1}$ | V | V | V | V | V | V | V | V |  |  |  |  |  |
|  |  | G | V | R | B | V | 0 | R | B | B | B | 0 | 0 | V | 0 |
| 2. | E | B | Y | R | R | V | R | R | R | R |  |  |  |  |  |
|  | S | B | R | V | Y | V | G | G | V | Y | B | G | R | 0 | B |
| 3. | E | V | V | G | Y | V | G | V | B | 0 |  |  |  |  |  |
|  | S | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
|  | E | V | R | Y | G | B | Y | 0 | Y | Y |  |  |  |  |  |
|  | S | B | B | B | B | B | B | B | B | B | V | 0 | B | B | Y |
|  | E | V | R | B | V | B | 0 | 0 | G | R |  |  |  |  |  |
|  | S | V | R | B | V | V | V | G | G | Y | G | V | 0 | V | Y |
| 6. |  | B | 0 | B | G | Y |  | $\mathrm{V}$ | $0$ | $0$ |  |  |  |  |  |
|  | S | V | B | V | V | G | B | v | G | G | 0 | V | V | V | Y |
|  |  | V | V | Y | V | V | V | V | V | V |  |  |  |  |  |
|  | S | R | B | G | G | R | R | Y | R | Y | 0 | G | R | V | 0 |
| 8. | E | Y | B | V | V | V | V | V | R | B |  |  |  |  |  |
|  | S | 0 | Y | B | G | G | R | B | B | B | Y | G | V | B | Y |
| 9. | E | V | 0 | Y | Y | V | Y | R | Y | 0 |  |  |  |  |  |
|  | S | 0 | V | G | Y | B | V | 0 | G | Y | R | Y | V | G | R |
| 10. | E | R | V | Y | B | Y | 0 | Y | B | Y |  |  |  |  |  |
|  | S | B | G | V | Y | R | B | B | V | G | R | V | B | Y | R |

$1_{V}=$ violet $; B=$ blue; $Y=$ yellow; $R=$ red $; G=$ green $; 0=$ orange.
${ }^{*} E=$ Easterling's (1974) Data

* $S=$ Streight's Data

ORIGINAL FOLLOW-UP COLOR PREFERENCES FOR FOUR-YEAR-OLD BOYS
$\mathrm{N}=12$

|  |  | First Color Preference | Clothes |  |  |  | Toys |  |  |  | Furniture |  |  |  | $\begin{aligned} & \begin{array}{c} \text { Bedroom } \\ \text { Decor } \end{array} \\ & \text { Bedroom } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Shoes | Coat | Dress | Overalls | Bear | Ball | Trike | Horse | Bed | Chair | Dresser | Lamp |  |
|  |  | $\mathrm{R}^{1}$ | Y | V | V | V | V | V | V | V | V |  |  |  |  |
|  | S* | V | B | $\mathbf{Y}$ | 0 | G | 0 | R | V | V | V | v | v | B | v |
| 12. | E | G | G | G | G | G | G | G | G | G |  |  |  |  |  |
|  | S | G | V | $\mathbf{Y}$ | R | 0 | R | $Y$ | G | V | R | 0 | G | $Y$ | Y |
| 13. | E | V | 0 | R | G | R | R | v | 0 | V |  |  |  |  |  |
|  | S | V | G | B | B | V | V | 0 | Y | R | G | V | V | B | B |
| 14. | E | R | R | R | R | R | R | R | R | R |  |  |  |  |  |
|  | S | R | V | G | G | 0 | Y | B | G | R | 0 | v | Y | V | B |
| 15. | E | V | V | V | V | V | V | V | v | v |  |  |  |  |  |
|  | S | V | V | V | V | V | V | V | V | V | v | V | v | V | v |
| 16. | E | R | Y | G | G | R | G | 0 | G | B |  |  |  |  |  |
|  | S | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| 17. | E | R | R | R | B | R | R | R | R | R |  |  |  |  |  |
|  | S | B | B | $\mathbf{Y}$ | B | B | B | G | B | R | 0 | B | v | $\mathbf{Y}$ | V |
| 18. | $E$ | 0 | B | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |  |  |  |  |
|  | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19. | E | G | V | v | V | v | v | v | G | R | G |  |  |  |  |
|  | S | B | R | 0 | B | V | G | R | V | 0 | V | B | B | B | v |
| 20. | E | v | V | v | V | V | V | B | v | v |  |  |  |  |  |
|  | S | V | V | V | G | Y | V | V | V | v | v | v | v | v | V |
| 21. | E | R | R | V | R | $\mathbf{Y}$ | 0 | B | 0 | R |  |  |  |  |  |
|  | S | 0 | $Y$ | $Y$ | $\mathbf{Y}$ | $\mathbf{Y}$ | Y | $\mathbf{Y}$ | R | B | R | G | v | R | $Y$ |
| 22. | E | v | V | V | V | V | V | V | V | v |  |  |  |  |  |
|  | S | v | G | R | R | G | Y | 0 | G | 0 | G | B | B | R | V |

$1_{R}=$ red; $Y=$ yellow; $V=$ violet; $B=b l u e ; ~ O=$ orange; $G=$ green.
${ }^{*} E=$ Easterling's (1974) Data
*S = Streight's Data

ORIGINAL FOLLOW-UP COLOR PREFERENCES FOR FIVE-YEAR-OLD BOYS

$$
\mathrm{N}=1.5
$$

|  |  | First Color Preference | Clothes |  |  |  | Toys |  |  |  | Furniture |  |  |  | Bedroom Decor |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Shoes | Coat | Dress | Overalls | Bear | Ball | Trike | Horse | Bed | Chatr | Dresser | Lamp | Bedroom |
|  |  | ${ }^{1}$ | B | B | B | B | B | B | B | B |  |  |  |  |  |
|  |  | V | R | G | R | R | R | Y | V | 0 | R | R | $\mathbf{Y}$ | $\mathbf{Y}$ | v |
| 24. | E | v | v | v | $\mathbf{Y}$ | v | v | G | R | G |  |  |  |  |  |
|  | S | v | v | v | V | v | $v$ | V | V | $v$ | v | v | $v$ | v | v |
| 25. | E | v | B | B | B | $v$ | $v$ | B | B | v |  |  |  |  |  |
|  | S | B | B | v | B | v | v | B | G | R | B | v | v | v | v |
| 26. | E | G | G | G | G | G | G | G | G | G |  |  |  |  |  |
|  | S | R | Y | 0 | G | B | R | Y | 0 | B | B | B | v | B | B |
| 27. | E | R | R | R | R | R | R | R | R | R |  |  |  |  |  |
|  | S | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| 28. | E | v | v | v | v | v | v | V | v | v |  |  |  |  |  |
|  | S | 0 | B | v | Y | G | R | B | 0 | R | G | B | v | $\mathbf{Y}$ | 0 |
| 29. | E | B | B | 0 | R | 0 | 0 | V | v | B |  |  |  |  |  |
|  | S | R | B | 0 | v | G | $\mathbf{Y}$ | v | $\mathbf{Y}$ | R | B | 0 | R | G | B |
| 30. | E | B | B | B | B | B | B | B | B | B |  |  |  |  |  |
|  | S | B | v | R | B | v | B | B | B | B | B | v | B | B | B |
| 31. | E | G | R | 0 | P | G | 0 | V | v | $\mathbf{Y}$ |  |  |  |  |  |
|  | S | 0 | B | v | $\mathbf{Y}$ | G | Y | R | R | v | 0 | G | R | B | v |
| 32. | E | v | R | G | 0 | $v$ | B | 0 | v | R |  |  |  |  |  |
|  | S | V | B | R | v | G | v | 0 | R | 0 | G | 0 | B | $\mathbf{Y}$ | R |
| 33. | E | B | G | G | 0 | v | G | G | R | R |  |  |  |  |  |
|  | S | v | R | 0 | Y | Y | G | B | v | V | 0 | 0 | B | G | R |
| 34. | E | B | $\mathbf{Y}$ | $\mathbf{Y}$ | 0 | v | $Y$ | B | B | B |  |  |  |  |  |
|  | S | $\mathbf{Y}$ | $\mathbf{Y}$ | R | R | R | B | v | G | B | Y | 0 | G | 0 | v - |
| 35. | E | G | G | B | v | v | v | G | v | G |  |  |  |  |  |
|  | S | V | G | R | B | 0 | v | 0 | G | G | G | v | v | 0 | G |
| 36. | E | R | R | R | R | R | R | R | R | R |  |  |  |  |  |
|  | S | R | 0 | $\mathbf{Y}$ | G | v | B | R | 0 | Y | v | R | B | G | 0 |
| 37. | E | B | Y | v | B | v | G | B | B | B |  |  |  |  |  |
|  | S | R | V | B | R | B | R | Y | 0 | V | B | $\mathbf{Y}$ | B | R | B |

$\mathrm{I}_{\mathrm{B}}=$ blue; $\mathrm{V}=\mathrm{v}$ tolet $; \mathrm{R}=$ red $; \mathrm{G}=$ green; $\mathrm{Y}=$ yellow; $0=$ orange; $\mathrm{P}=\mathrm{Ptak}$.
${ }^{\mathrm{E}} \mathrm{E}=$ Easter14ng's (1974) Data
${ }^{*}$ = Stretght's Data

ORIGINAL FOLLOW-UP COLOR PREFERENCES FOR THREE-YEAR-OLD GIRLS

$$
\mathrm{N}=10
$$


${ }^{1} \mathrm{~V}=$ violet $; \mathrm{G}=$ green; $\mathrm{R}=$ red; $\mathrm{B}=\mathrm{blue} ; \mathrm{Y}=$ yellow; $0=$ orange.
${ }_{\mathrm{E}}^{\mathrm{E}}=$ Easterling's (1974) Data
*S = Streight's Data

ORIGINAL FOLLOW-UP COLOR PREFERENCES FOR FOUR-YEAR-OLD GIRLS

$$
N=17
$$



ORIGINAL FOLLOW-UP COLOR PREFERENCES FOR FIVE-YEAR-OLD GIRLS $\mathrm{N}=14$

|  |  | Firat Color Preference | Clothe: |  |  |  | Toys |  |  |  | Furniture |  |  |  | Bedroom Decor <br> Bedroom |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Shoes | Coat | Dras: | Overalls | Bear | Ball | Trike | Horse | Bed | Chatr | Dresser | Lemp |  |
|  |  | $v^{1}$ | 0 | R | B | G | 0 | R | Y | $\mathbf{Y}$ |  |  |  |  |  |
|  |  | v | R | G | B | 0 | $Y$ | R | $v$ | Y | Y | G | G | B | R |
|  |  | 0 | R | R | R | R | 0 | R | 0 | 0 |  |  |  |  |  |
|  | S | B | R | v | G | 0 | $\mathbf{Y}$ | V | B | G | $\mathbf{Y}$ | 0 | B | R | v |
| 67. |  | v | v | Y | G | v | R | P | $v$ | 0 |  |  |  |  |  |
|  | S | v | 0 | $\mathbf{Y}$ | G | 0 | R | $\mathbf{Y}$ | R | V | v | 0 | B | 0 | $v$ |
| 68. |  | $v$ | v | v | v | $v$ | $v$ | v | v | $v$ |  |  |  |  |  |
|  | S | v | $v$ | v | v | v | v | v | v | $v$ | v | v | v | v | v |
|  | E | v | G | Y | G | G | $v$ | v | B | B |  |  |  |  |  |
|  | S | v | R | G | R | V | 0 | B | v | $\mathbf{Y}$ | G | B | Y | 0 | v |
| 70. | E | v | v | B | V | R | v | V | G | v |  |  |  |  |  |
|  | S | G | B | Y | B | 0 | V | B | R | $\mathbf{Y}$ | G | B | R | B | B |
| 71. | E | Y | 0 | v | $\mathbf{Y}$ | v | G | B | Y | B |  |  |  |  |  |
|  | S | G | B | v | $\mathbf{Y}$ | 0 | B | R | 0 | G | G | $v$ | R | B | $\mathbf{Y}$ |
| 72. | $E$ | G | G | B | G | Y | G | G | B | G |  |  |  |  |  |
|  | S | $\mathbf{Y}$ | V | G | R | 0 | B | 0 | R | G | R | G | B | v | G |
|  | E | v | B | v | G | R | $Y$ | v | v | R |  |  |  |  |  |
|  | S | R | v | 0 | $\mathbf{Y}$ | B | $\mathbf{Y}$ | 0 | R | v | R | $v$ | R | R | R |
| 74. | E | Y | 0 | v | $\mathbf{Y}$ | G | Y | Y | B | $\mathbf{Y}$ |  |  |  |  |  |
|  | S | Y | B | V | R | 0 | Y | R | V | R | 0 | Y | $\mathbf{Y}$ | B | Y |
| 75. | E | Y | R | B | $v$ | 0 | R | Y | v | R |  |  |  |  |  |
|  | S | 0 | v | B | $v$ | B | R | 0 | R | Y | R | B | G | R | R |
| 76. | E | Y | Y | $\mathbf{Y}$ | $v$ | $\mathbf{Y}$ | $\mathbf{Y}$ | B | R | G |  |  |  |  |  |
|  | S | R | $\mathbf{Y}$ | R | $\mathbf{Y}$ | B | R | 0 | R | $\mathbf{Y}$ | Y | R | $\mathbf{Y}$ | R | R |
| 77. | E | R | 0 | V | R | B | Y | G | 0 | 0 | R | 0 | Y | B | G |
|  | S | R | G | $\mathbf{Y}$ | V | B | R | 0 | v | B | R | 0 | $\mathbf{Y}$ | B | G |
| 78. | E | R | B | v | R | B | V | 0 | G | $v$ |  |  |  |  |  |
|  | S | $\mathbf{Y}$ | G | 0 | R | Y | B | $\mathbf{Y}$ | V | V | $\mathbf{Y}$ | R | B | 0 | $\mathbf{Y}$ |

SUBJECT AND SIBLINGS' COLOR PREFERENCES
$\mathrm{N}=34$

|  | Subject  Sister(s)  <br> First Color <br> Preference First Color <br> Preference First Color <br> Preference  |  |
| :--- | :--- | :--- | :--- |

Three-Year-01d Boys
1.
2.
3.
$\begin{array}{ll}\text { G }^{1} & \mathrm{~V} \\ \mathrm{~B} & \mathrm{~V} \\ \mathrm{~V} & \mathrm{~B}\end{array}$
B B
Four-Year-Old Boys

| 4. | V |
| :--- | :--- |
| 5. | G |
| 6. | 0 |
| 7. | $B$ |

V
0
V

0
B
Five-Year-01d Boys

| 8. | $V$ | $B$ |  |
| ---: | :---: | :---: | :---: |
| 9. | $B$ |  | V |
| 10. | $R$ | $B$ |  |
| 11. | $R$ | $B, Y^{2}$ |  |
| 12. | 0 | $B, V$ | $B$ |

Three-Year-01d Girls

| 13. | R |  | B |
| :--- | :--- | :--- | :--- |
| 14. | V | B |  |
| 15. | V |  | R |
| 16. | G |  |  |

Four-Year-01d Gir1s

| 17. | V |  | R |
| :---: | :---: | :---: | :---: |
| 18. | G | V, B |  |
| 19. | V |  | G |
| 20. | B | Y |  |
| 21. | B | 0 |  |
| 22. | V |  | G |
| 23. | G |  | B |
| 24. | Y |  | G |
| 25. | Y | Y | 0 |
| 26. | V |  | R |
| 27. | G |  | B |
| 28. | V |  | G |
| 29. | B | Y | R |

SUBJECT AND SIBLINGS' COLOR PREFERENCES (Continued)

|  | Subject | Sister (s) | Brother (s) |
| :---: | :---: | :---: | :---: |
|  | First Color <br> Preference | First Color <br> Preference | First Color <br> Preference |
| Five-Year-01d Girls |  |  |  |
| 30. | V |  | B |
| 31. | B |  | B |
| 32. | V |  | B |
| 33. | V | R |  |
| 34. | R | V |  |
| $\mathrm{l}_{\mathrm{G}}=$ green $; \mathrm{V}=$ violet $; ~ \mathrm{~B}=\mathrm{blue} ; ~ O=$ orange $; \mathrm{R}=$ red; $\mathrm{Y}=$ yellow. |  |  |  |
| ${ }^{2}$ When more than one ences were tested. | indicated, | or more si | prefer- |

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[^0]:    ${ }^{*} E=$ Easterling's (1974) Data
    ${ }^{*}$ S $=$ Streight's Data

[^1]:    *S indicates data with subjects and sisters.

    * ${ }_{B}$ indicates data with subjects and brothers.
    *Note: 17 indicates number of subjects with sisters.
    24 indicates number of subjects with brothers.

