

A STUDY RELATING A COLOR TEST, PERSONALITY
INVENTORY (EXTRAVERSION SCALE), AND
LIVING ROOM COLOR PREFERENCES

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CHAPTER I

INTRODUCTION

The colors people generally like may or may not relate to the colors they choose to use in the interior decoration of their homes. Sharpe (1974) believed there were correlations between color preferences in home furnishings and individual personality characteristics. The purpose of this color preference study was to determine whether Sharpe's statement was true. Are color selections for the interior of the home influenced by individual personality characteristics?

Throughout history people have associated color with symbolism. Some researchers believed this symbolism was physiological in origin, but Anderson (1961) believed that color means exactly what a society says it means. Institutions of church and state have been the most influential in the development of color symbolism. Although, color symbolisms were many and sometimes inconsistent, generally red denoted fire and sin, green the great outdoors, white cleanliness, black wickedness and misfortune, gray aged experience, blue melancholy, pink optimism, purple royalty, and yellow cowardice.

According to author and color consultant Faber Birren, some colors were beneficial to people in certain environments (1950). Kane (1982) reported the results of a study in which the healing process could be speeded up with the right usage of color. A complete color change of the hospital's interior from dull browns and grays to bright oranges, pinks, and greens had an immediate and positive affect on the morale of patients and staff.

Psychologist, Sharpe (1974), and environmental psychologist and architect/designer Bernardo (1980), believed the use of a particular color at a particular time could influence certain kinds of behavior. Research evidence seems to indicate this was true. A study

completed on classroom color and referenced by Kane (1982) found that students reacted differently to different colored classrooms. Classroom walls painted warm colors, such as red and orange created an atmosphere which made students nervous, while classroom walls painted cool colors such as blue and green helped create a more relaxing atmosphere. Bernardo found a friend of his suffering from depression and marital difficulties after his small New York City apartment was redesigned. The new design allocated 40% of the apartments space to the main living area which was completely decorated in black. The walls were lacquered black, the floors covered with black marble, a massive couch was upholstered in raw black silk, and the rooms main light source was candles. The new design of the living space was large and dead, making human communications difficult, especially on the intimate level required for family survival. An immediate second renovation of the space corrected the communication problems with the first space and saved the couples troubled marriage. The affect of a black living space was extreme in this instance, and clearly showed the role of environment on human behavior.

As early as 1810, von Goethe discovered that the colors on the warm end of the spectrum (red, yellow, and orange) were exciting, vital, and advancing, while the colors from the cool end of the spectrum (blue, green, and purple) brought on a subtle, comfortable, soothing response. In experiments reported by Itten (1970) a subjective difference of five to seven degrees was found between a workroom painted blue-green and one painted red-orange. In the blue-green room occupants felt cold at 59°F, whereas in the red-orange room occupants did not feel cold until the temperature reached 52-54°F. "Objectively, this meant the blue-green slows down the circulation and red-orange stimulates it" (Itten, 1970, p. 45). Similar results were observed in an animal experiment. A racing stable was divided into two sections, one painted blue and another painted red-orange. After running, horses in the blue section quieted down quickly, while those in the red-orange section remained hot and restless for a longer period of time. It was also observed that there were a great many flies in the red-orange section and none in the blue

one. "Both experiments illustrate the pertinence of cold-warm contrast to color planning of interiors" (Itten, 1970, p. 45).

Some designers adopted their own aesthetic tastes when discussing colors for the home. Others were of the opinion that one's home should reflect the occupants personality regardless of their tastes and believed that it should not be a function of the designer to dictate aesthetic standards. Nevertheless opinions were mixed, some consumers believed it was the duty of the press, the designer, and the manufacturer to influence color trends in the right direction. In the end, however, consumers chose a color because they liked it or because it fulfilled a specific need. Designers and manufacturers must identify the colors people like and the motivation that causes them to choose one color rather than another (Danger, 1968). Bernardo (1982) also believed consumers have placed too much reliance on designers, decorators and periodicals to guide their color selections and decorating decisions in the proper directions. He believed consumers should be more inquisitive and skeptical of published designs and colors.

Color preferences were always changing slightly. So, it was the focus of this research to identify color preferences in the home environment, as well as to examine the effects of personality on individual color preferences.

Statement of Problem

Color preferences as an element of environmental design play a significant role in human behavior. Personality is a major factor contributing to an individual's color preferences. Therefore, the purpose of this study was to examine the relationship between personality and color preferences in the home environment.

Objectives

1. To develop an instrument and pictorial representation of twelve living room color schemes.

2. To compare color preferences between the Luscher Color Test and the twelve living room environments.
3. To determine the relationship between personality (introvert and extravert) and living room color preferences.

Significance of Study

Much color preference research has consisted of small groups ranking a few colors in order of choice (Luscher, 1969). Other color research has focused on the physiological and psychological aspects of color. However, relatively little available research has focused specifically on color preferences in the home environment. Since few researchers have studied color preferences in the home environment, further research in this area will be beneficial to society while also contributing to the theory base of color research.

Assumptions

The following assumptions were made:

1. Students in sections 2 and 13 of Introductory Psychology (Psch 1113) and students in section 1 and 2 of Marriage (FRCD 3143) would provide a fairly even ratio of men to women and a representative stratification of grade classifications and majors at the university.
2. The researcher developed an instrument with good validity by which to measure color preferences in the home environment.
3. The twelve color renderings would be viewed as an actual living room.

Limitation

The following limitation existed for this study:

1. Color mediums used in the renderings were water base markers and color pencils which often yield colors of rather high intensity.

Definition of Terms

Color Preference Survey: Developed by this researcher in 1985 to obtain demographic, general color preference, and living room color preferences.

Eysenck Personality Inventory: Introduced by H.J. and Sybil Eysenck 1963-1969, the Eysenck Personality Inventory measures three independent dimensions of personality, extraversion-introversion (E), neuroticism-stability (N), and lie (L) (see appendix p. 53).

Luscher Color Test: Developed and introduced by Dr. Max Luscher in 1947 and translated and edited by Ian Scott in 1969, the Luscher Color Test is a deep psychological test developed for use by psychiatrists, psychologists, physicians and those who are professionally involved with the conscious and unconscious characteristics and motivations of others. The principle of the test is that accurate psychological information can be gained about a person through his choices and rejections of colors. (see appendix p. 57).

Related Terminology

Achromatic: Colors that were neutral in hue, white, gray, and black.

Analogous colors: Colors that were adjacent to one another on the color wheel.

Chroma: Refers to the relative purity or grayness of a color. This dimension of color was also known as intensity or saturation. Colors of strong chroma were those that approached likeness to pure hues. Orange was a color of strong chroma and tan was a color of weak chroma.

Color Preference: The act of preferring a particular color or colors, the power or opportunity of choosing a favorite color or colors.

Dichromatic: Having or exhibiting two colors.

Extraversion: Refers to the out-going, uninhibited, impulsive and socialable inclinations of a person.

Hue: The term used to distinguish one chromatic color from another.

Introversion: Refers to an individual that is inward and predominantly concerned and interested in one's own mental life.

Metamerism: Also isomeric, composed of the same elements in the same proportion by weight, but differing in one or more properties because of a difference in structure.

Monochromatic: Having or consisting of one color.

Perception: The process of knowing or recognizing objects or colors.

Rendering: To render or give color to a black and white drawing.

Shade: A color formed by adding black to a pure color. Shades were the deep rich colors of autumn and included maroon, brown, olive, and navy.

Tint: A color formed by adding white to a pure color. Tints were delicate and atmospheric in quality and seemed to be associated with nature and with the spring of the year. Tints included colors such as pink, lavender, and peach.

Tone: A color formed by mixing a pure color with white and black (or gray). Tones were soft and neutral in character and were associated with the muted colors of winter. Tones included the colors rose, tan, beige, and taupe.

CHAPTER II

REVIEW OF LITERATURE

Introduction

The following topics were related to and have been selected to support thesis research:

- theories of color perception,
- physical aspects of color,
- color preferences,
- color preferences and personality,
- appropriateness of colors for home interiors,
- color trends,
- color association of the United States.

Theories of Color Perception

Early in the nineteenth century, color theorist Thomas Young proposed revisions to Newton's seventeenth century model of color vision. Young did not totally accept Newton's theory that the retina was made of an infinite number of particles which pulsed simultaneously with infringing light waves. Young, instead proposed that three types of receptors correspond to three wavelengths of color (red, yellow, and blue). H. von Helmholtz elaborated on Young's theory suggesting there were three basic kinds of color vision. The physiology of the eye, Helmholtz proposed, was different from that of Young's in that Helmholtz described the eye as containing three kinds of nerve fibers. Stimulation of each of the three types achieved a different color sensation, red first, green

second, and violet third. Helmholtz's theory also differed from Young's in that he believed color sensations were stimulated by all wavelengths and that only their maximum response was from stimuli in the red, green, or blue-violet region of the spectrum. Color vision theories of both Young and Helmholtz were combined to form the "Young-Helmholtz Theory" (Forgus and Melamed, 1976).

In 1874 Hering set-forth the theory of "optic substance". The theory proposed that different and independent substances could undergo two processes of change, 1) break down and 2) build up. The two processes were able to produce pairs of primary colors (yellow-blue, green-red, and black-white). Hering's model explained purity of the colors yellow and white as well as dichromatic color blindness, simultaneous and successive contrast, the lack of a yellowish-blue, reddish-green, and other less noticeable effects such as predominance of yellow and blue at high illumination levels (Forgus and Melamed, 1976).

Recent students of color vision theory, Hurvich and Jameson (1974), were able to show how Hering's optic substance model could be utilized to indicate activity of the color-vision system on the neural level. Their theory was a method consistent with existence of three color receptors. The Hurvich-Jameson neural opponent process model utilizes three receptors or cones with maximum absorption at 440 nm (α), 530 nm (β), and 570 nm (γ). When neutral levels occurred there were three opponent-process pairs: blue-yellow, green-red, and white-black. The three pairs were arbitrarily thought of as negative processes, where as yellow, red, and white were considered positive. Figure 1 shows stimulus inputs from receptors to the opponent system. Those indicated by arrowheads were positive inputs and those ending in a flat line were negative. Concerning the arousal inputs, it should be remembered that the neural response within any of the three systems was determined by the sum of the signed inputs from the three receptors. Consider the signs as random or arbitrary. When stimulus consists mostly of short wavelengths (blue) of high energy content, it will be absorbed more by the alpha signal than by the beta and

gamma receptors. As a result of a strong alpha signal of negative sign and two weak receptors of positive sign from the beta and gamma receptors would result in the blue state of the blue-yellow opponent process. The sensory experience of blue would arise in response to this neural process (Forgus and Melamed, 1976).

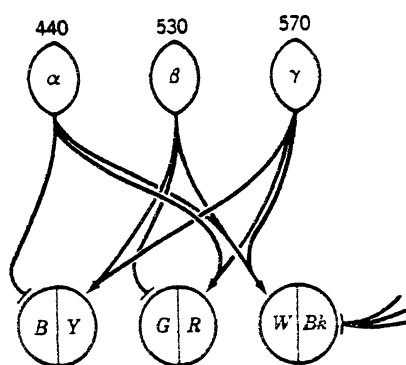


Figure 1. Three-Cone Absorption and the Neural Opponent Process in Color Vision

Summary of Color Perception Theories

Young proposed an idea in which three types of receptors corresponded to three wavelengths of color (red, yellow, and blue). Helmholtz elaborated on Young's theory suggesting an eye containing three kinds of nerve fibers. In Helmholtz's theory color sensations were stimulated by all wavelengths and only maximum response was from stimuli in the red, green, and blue-violet region of the spectrum. Herring set-forth the theory of "optic substance" in which different and independent substances could undergo a process of break down or build up. The two processes produce pairs of primary colors (yellow-blue, green-red, and black-white). Finally, Hurvich and Jameson brought together

the theories of Young, Helmholtz, and Herring to indicate activity of the color-vision system on a neural level.

The Physical Aspects of Color

Identical colors may look very different under dissimilar conditions of light. Colors can be the same physically, however, appear very different under dissimilar conditions of lighting. There is not a simple or specific answer to these problems since they are ingrained in the nature of light, color, and human vision (Danger, 1968).

The composition of a light source, or its spectral distribution, plays a big role in the colors people see. When white light is visible, the eye's three receptors are stimulated in equal proportion; however, most light is spectrally unbalanced. Incandescent light, for example, is high in red and low in blue stimulus. To make up for this imbalance, the sensitivity of the receptors is spontaneously altered in an adaptation process that allows the brain to receive nearly equal impulses, and the light is seen as white. This theory applies when there is one light source in the field of vision. The eye is apt to have difficulty orienting itself to additional light sources or to sudden change in stimuli. As a result, color of an object is dependent on the level of adaptation of the viewer and on the specific spectral distribution of light which is reflected by the object. So long as the viewer remains adapted to one source of whiteness, the appeared color of objects will depend entirely on spectral qualities of the light source, and therefore vary with lamp type. A warm fluorescent lamp, for example, has an orange-pink stimuli that when reflected off a colored object will slightly change the perceived color of an object (Danger, 1968).

By a phenomenon known as "metamerism" objects having dissimilar chemical make-ups may react differently to light reflected from them. This variance may apply to vary different pigments, or vary different materials such as plastics and ceramics. For this reason it is desirable to select colors which will be used together under the same light source and preferably the light source they will be displayed under. While color standards

can be set for any given object and additional objects matched physically to that standard, there is still no guarantee the two objects will look the same under the same conditions. Many of these color variations may be small enough to be ignored; however, it is always good to remember they do exist (Danger, 1968).

Besides the physics of color, what is seen depends on the human mind's explanation. This sensation is called "perception". For example, a color such as red may have many different looks. The color may be filmy and atmospheric like a patch of crimson sky at sunset; it may have volume like a glass of red wine; it may be transparent like cellophane; it may be luminous like a lantern; dull like a piece of suede; lustrous like silk; metallic like a Christmas tree ornament; or have the iridescence of an opal. It is possible that the red of these items could be identical so far as instrumental measurements are concerned, although in personal experience each of the reds would be very different (Danger, 1968).

Color Preferences

Cohn (1894), one of the first experimenters in the field of color preference, denied the existence of any basic order of preference for colors. Walton, Guilford, and Guilford (1933), found enough common agreement for colors among their subjects to indicate a basic biological cause for color likes and dislikes. Experimenter and author, Eysenck (1941), found less variance among color preferences than he had among intelligence scores. Hence, he concluded "that there is more agreement between the order of preference of colors than between the results of intelligence testing" (Eysenck, 1941, p. 387).

Eysenck (1941) set out to study three aspects of color preference. One, to compare his results with those of Von Allesch. Eysenck reported that Von Allesch stressed the chaotic diversity of color preferences and maintained his results varied too much to say that generally, colors were either pleasing or displeasing. Two, Eysenck wanted to combine the results of previous color preference investigators. Three, he wanted to analyze the results of combined studies in order to determine the extent of agreement between himself,

Von Allesch, and between a combined group of 28 color preference investigators. Eysenck found Von Allesch's results were essentially identical to his own. Between the combined results of 28 investigators, Eysenck found a color preference ranking correlation of 0.82 among caucasian subjects and of 0.72 among black subjects. He concluded there was much more agreement between the various investigators than previously thought. Eysenck believed his results yielded a high correlation that suggested a possible basis for a universal scale of color preference.

Today color plays an increasingly important role in the sales of a variety of products. The manufacturer has to identify the colors that people like or discover the motivation that causes them to pick one color over another (Danger, 1968). The popularity of a color depends on the characteristics of the consumer. Danger stated that age, gender, conservatism, traditionalism, contemporarity, and sophistication all influence an individual's color preferences. Consumers prefer colors to which they are accustomed. These colors normally come from nature and include the blues of the sky and sea, the green of grass and trees, the yellow of the sun, and the red of roses (Hayter, 1965). The primary hues are psychologically pleasing to the human heart when they appear as the predominant color in any color scheme (Danger). Colors experience fashionable cycles; there are always a few colors that are consistently preferable to others (Sproles, 1981). No one trend or preference applies to every situation. There are always a few individuals who refuse to follow the preferences of the majority (Danger, 1968). Cheskin (1947) reported that unusual, subtle or off shades are rarely preferred by the average consumer.

Individual preference for a hue can be raised or lowered depending on whether it becomes a tint, shade, or a pure hue. For instance, a preference for the blue-green hue increased when black was added to it (Cheskin, 1947). In general, small differences in brightness and saturation do not change the order of preference. Changes in brightness large enough to affect preferences tend to make brightness an overriding feature and are unrealistic because brightness of this magnitude is rarely encountered in the daily

environment (Sharpe, 1974). Guilford and Smith (1959) stated that "colors are usually most liked at brightness levels at which they can be most saturated" (p. 437).

Color Preferences and Personality

Katz (1950) writes "color, rather than shape, is more closely related to emotion" (p. 5). Many psychiatrists and psychologists have noted that response to form seems to be intellectual, while reactions to color are more impulsive and emotional (Birren, 1973). Aguilera (1980) stated "color preferences are viewed by some scientists as a reflection of personality and emotional state" (p. 405B). Investigators have postulated two types of individuals, those who prefer saturated colors and those who prefer unsaturated colors. Stevenson (1935) did not assess personality of his subjects; however, he found a bi-polar factor dividing his subjects between those who prefer bright colors and those who prefer subdued colors. Barrett and Eaton (1947) found that preferences for bright and pure colors was associated with extraversion, while preferences for tints and shades was associated with introversion. Choungourian (1967) found a tendency for extraverts to prefer more warm colors than introverts. Birren (1973) reports that human beings tend to fall into two distinct groups: those who prefer clear, distinct hues, usually warm in tone, and those who favor cooler hues and tones of less saturation. Warm color dominant subjects are usually outwardly integrated while cool color dominants are usually inwardly integrated. The distinction between these two categories is also referred to as the personality difference between extraverted and introverted persons, with extraverted personalities preferring the former and introverted personalities preferring the latter (Danger, 1968). While studying the color preferences of 190 art students, Gotz and Gotz (1975) found that extraverts and ambiverts mainly preferred primary and secondary colors including light clear and dark clear tones, while introverts preferred tertiary or earthy colors and achromatics. Aguilera (1981) found gray was significantly more preferred than purple by introverts, while extraverts showed a preference for red as compared to black.

Appropriateness of Color for Home Interiors

Trends of consumer preference vary a lot depending on the part of the home in which the product will be used. There are separate trends for each part of the home including the kitchen, living room, and bedroom. Usually, trends vary according to type of product and type of market. In British markets three major trends can be identified. The first is soft goods such as carpets, curtains, and furnishing and the third is kitchens. There are also small variations according to the part of the home in which the product is used, and the top and bottom ends of the market (Danger, 1968).

Slatter and Whitfield (1977) found that judged appropriateness of color varies with room function. There is mounting evidence that evaluative responses to colors are not absolute, but rather they are dependent on the objects the colors are associated with (Slatter and Whitfield). Sivik (1974) believed colors are more or less appropriate to a given object category, with more appropriate colors eliciting higher evaluative responses than inappropriate ones. He also suggested there are culturally determined norms of appropriateness governing preferences for building colors. Inui (1966) found that frequencies with which specific colors occurred varied with the type of interior function and with particular interior surfaces.

Color Trends

"Color trends are a reflection of the majority of the people, and therefore represent the preferences of the average consumer" (Danger, 1968 p.45). The main reason color trends arise at all is that people want and need change (Danger). Frequently viewed colors become monotonous and boring. For that reason people look for new or different colors (Cheskin, 1947). Several major factors contribute to the direction of color trends. One, consumers seldom want to purchase the same color twice. Price and utility are major considerations in first time purchases, whereas in second or replacement purchases,

appearance becomes more important. Two, consumers do not like to make decisions on their own. They seek advice from everyone around them including the press, advertisements, and neighbors. And because most consumers are seeking advice in the same places, their color decisions are also influenced in the same direction (Danger).

Color trends move relatively slow. A cyclic life of about ten years has been observed in consumer goods (Danger, 1968). A color will grow in popularity (or selling ascendancy) for about five years and then decline in popularity for about five more, never disappearing completely from the market ("Understand Color", 1959 & Danger). Hayter (1965) stated that the life of a color depended on its seasonability. A neutral color such as ivory may vary slightly in shade from season to season, but will have a long run of popularity. On the other hand, intense outlandish colors may be mis- or over-used and become quickly outdated (Danger).

While it is the "sophisticates" who usually start color trends, it is the lower social and economic classes who usually determine the length of a color's cycle ("Understand Color", 1959 & Danger, 1968). Due to advanced mass production techniques and modern communications, color trends now move virtually horizontally, saturating all markets within a short period of time (Hayter, 1965). At any given point in time there is usually one color that is the favorite, and it will be popular in a number of variations which will differ according to product and market. When a color shows up and is promoted by the press, it begins to gain momentum and build authority. Eventually it will appear and sell equally well in all types of products because the buyer is the same in many cases. For example, if a woman sees a color she is attracted to in a piece of clothing, she will be equally attracted to the color in carpet, home products, or products she buys on impulse. And because the majority of people are conformists, the demand for a color can become very strong (Danger).

Economic and political conditions also affect the demand for color. For instance, during a depression people are apt to buy for the long term and therefore tend to purchase

subtle neutral colors. Periods of war are often followed by a preference for pastel shades, probably because they are a delicate contrast to the severities of war. Pastels might in turn be followed by a period of "muddy shades". Again a reaction to the delicate pastels. One modern day trend is a tendency toward the use of more and brighter colors. To a large extent this trend has been caused by the large number of young people, who have their own money to spend. Young people prefer to satisfy their inherent color preferences, by buying bright colors for the short term rather than subdued colors for a lifetime of use. This phenomena is known as "planned obsolescence" (Danger, 1968).

Another factor affecting the direction of color trends is the theory of over-exposure. Over-exposure to a particular color may cause the eye to shift toward the complement of that color. A slow moving trend toward the complementary color was begun. The new hue was a compromise between the two complements (Danger, 1968).

Color Association of the United States

Founded in 1915, the Color Association of the United States was known as the Textile Color Card Association until 1954. The Association has greatly helped manufacturers by forecasting and standardizing colors for industries ranging from automobiles to textiles (Akey, 1982). The association produces two color cards yearly for the apparel industry and one card annually for interiors. The cards are meant to be used as tools, for interpretation, and not necessarily to be taken literally (Cohen, 1983).

The 1984-1985 forecast card for interiors consisted of 40 colors, each shown with an inter-related tonal quality. The palette functions as a counterbalance to the turmoils of our times. In an era of the violent and the bizarre, colors for interiors will continue to emphasize tranquility, with soft, medium, and muted shades. Important psychological factors, comfort, quiet, and repose are reflected with cool tonalities. Rose-quartz shades emerged from the mauve family of the 1983-1984 card. Muted green shades and celadons are calm and unaggressive. Neutrals and off-whites are tinted yellow, green, or pink, a

definite departure from earthy and natural tones. Similarly, grays are blue-tinged. The color statement is clearly to bring repose and assurance into our lives and environments.

Each years palette emerges from committee consensus. The committee, a group of eight to ten specialists from areas of color, marketing, merchandising, and the social sciences. The group works by having each member assemble a palette of what they consider to be the emerging trends. Influences can come from anywhere, international fashion showings, museum exhibitions, paintings, or travel influences. This year, for example, Jack Lenor Larsen based his pallet on fabric swatches of colored cottons purchased in India. After each member has done his homework and created a palette, meetings and discussions begin until a tentative end product results as a synthesis of everyone's ideas. This constitutes phase one of the process. The second phase has to do with research and evaluation of projections. Colors proposed for the coming season are subjected to research audit which includes checks of actual sales through market studies and retail sales tests. A committee statement says, we are eager to distinguish between new colors about to come over the horizon and those which are fading in popularity. From there, manufacturer color selections would depend on market conditions, economic status of trade, and whether sales outlets are of high or medium fashion (Cohen, 1983).

Summary

This chapter began with an investigation of the major color perception theories proposed since the early 1800's. The physical aspects of color were discussed including the effects of light on color. Human attributes of personality (introversion and extraversion) contribute to an individual preferences for color. Separate color trends or appropriate colors exist for each room of the home, depending on product and room function. Finally, procedures used by the Color Association of the United States to predict and forecast new color trends was expanded upon.

CHAPTER III

METHODOLOGY

This chapter explains methods and procedures used in this study, specifically addressing sampling procedure, pilot studies, instrumentation and validity, data collection, and statistical analysis.

Research Methods

The research method considered to be appropriate for this study was descriptive research, since it was an attempt to describe and interpret relationships that existed between non-controllable variables (Best, 1981).

...non-experimental, for they deal with the relationships between non-manipulated variables in natural rather than artificial settings. Since the events or conditions have already occurred or exist, the researcher selects the relevant variables for analysis of their relationships (p. 106).

Populations and Sampling Procedures

The population included all Oklahoma State University students officially enrolled in sections 2 and 13 of Introductory Psychology (Psch 1113) and all students enrolled in sections 1 and 2 of Marriage (FRCD 3143) during the 1985 Fall Semester. The two classes were selected for the wide diversity of students they attracted. The researcher was looking for classes with a good ratio of males to females, a stratification of grade classifications, and a variety of major colleges. After data was collected from 143 subjects it was determined that most subjects were caucasian and most fell within the 18-23 year old age group. Because representation of other groups was minimal, survey results of subjects

not falling into both ethnic and age categories were dropped from the study, leaving a sample of 85 females and 34 males for a total of 119.

Pilot Studies

Two pilot studies were carried out before the actual research data was collected. The first pilot was carried out in a graduate level research methods class. The researcher collected the data during the regularly scheduled class period. The original Color Preference Questionnaire was administered to subjects (see appendix p. 77-84).

The second pilot study differed from the first in three basic ways. First, the sampling procedure was to have been a random sampling of university employees. Second, in order to maintain a controlled test environment and to test a number of subjects at a single session, the subjects were asked to participate in the study at a time of their choice during the week of July 22-25, 1985 in Home Economics West, room 429. Unfortunately, a small response negated the randomness of the sample. Third, a revised Color Preference Questionnaire was administered (see appendix p. 71-76).

Instrumentation

Four instruments were used to collect the data for this study. Two standard instruments and two custom designed instruments were selected for the purposes of this study. First, a personality inventory was utilized to objectively test personality (extraversion-introversion) of subjects. Second, a color test was chosen to objectively test color preferences of subjects. The third and fourth instruments were designed by the researcher to obtain specific demographic and home color preference information. The four instruments were collectively administered as one questionnaire called the Color Preference Survey (See appendix p. 52-57). The Color Preference Survey included the Eysenck Personality Inventory, the Luscher Color Test, demographic and color preference questions from the survey, and twelve rendered livingroom environments.

Eysenck Personality Inventory

The first objective instrument utilized was the Eysenck Personality Inventory (See appendix p. 52 and 53). The Eysenck Personality Inventory objectively assessed three aspects of human personality: 1) extraversion-introversion (E), 2) neuroticism-stability (N) and 3) lie (L), "faking good". However, the extaversion-introversion or (E) scale was the only Eysenck scale scored and used for data analysis in this study. The (E) scale was used to determine an extraversion score for each subject which could range from 0-24.

Auke Tellegen, Professor of Psychology, University of Minnesota, reviewed the Eysneck Personality Inventory for The Eighth Mental Measurements Yearbook (1978). He found the EPI manual, like most manuals, deficient in discussion of scale content. However, the manual did provide behavioral portraits of high N, high E, and low E scores, which were probably derived from the item content. "There is growing evidence that the content of a well-constructed scale and the behavior predictable from it are often related in a directly understandable way" (Tellegen, 1978, p. 802). The manual presents test-retest correlations, parallel form correlations, and scale intercorrelations for N and E scales. Test-retest correlations ranged from .81 to .85 for individual scales and .84 (N) and .88 (E) for both A and B forms combined with a sample of 92 subjects for a one year interval. Tellegen believes that while the Eysenck Personality Inventory may not provide all the necessary information, it is a useful tool in personality assessment, and will continue to play an important supplemental role.

Validity of the Eysenck Personality Inventory was tested by Robinson (1975). Subjects were given the the Eysenck Personality Inventory to obtain an (E) score for extraversion and also asked to rate themselves as to their relative extraversion. Between the self-rating and the Eysenck Personality Inventory, the Pearson r correlation was 0.82, indicating that the (E) scale was high validity.

Luscher Color Test

The second objective instrument utilized was the Luscher Color Test (see appendix p. 54, 57, and 58). The Luscher Color Test objectively assessed color preferences of subjects according to the eight test colors. The Luscher Color Test was also used as the main criterion for selecting livingroom environment colors. The Luscher Color Test aided in determining whether individual preferences for specific "colors" were similar to individual color preferences of the same colors in the home environment.

The Luscher Color Test can be used as a "deep" psychological test by psychiatrists, psychologists, physicians and other professionally qualified persons (Luscher, 1969). The Luscher Color Test uses "functional Psychology", theories relating color choice to personality psychology as being objective and constant for everyone, while the "function" or subjective attitude towards a color varies from person to person. It is the functional aspect upon which test interpretations are based.

The Luscher Color Test worked by having subjects rank the eight test colors in order of preference. Luscher believed that by observing the order, position of a color's rank, and/or color combinations we could determine what function that color represented to the individual. Luscher (1969) stressed that the four basic colors (blue, green, red orange, and yellow) represented basic psychological needs and should therefore occur in the first four or five places of the test when selected by healthy, normally balanced individuals who were free of conflicts and repressions. The auxiliary colors are violet, rust, black, and gray. A preference for any of the last three, achromatic colors, may be taken as indicating a negative attitude towards life.

Since determining the psychological make-up of subjects was not important to the purpose of this study and because the validity of the Luscher Color Test has been questioned, the test was simply used as a means of documenting color preferences and selecting livingroom colors. Proper application of the Luscher Color Test called for a series of two color selections to be made within a short interval of time, results of the

second test were to be used for data analysis. Therefore, in keeping with recommended testing procedures, subjects ranked the eight colors of the Luscher Color Test two times.

Donnelly (1977) studied concurrent validity of the Luscher Color Test by correlating its scores with those of the Taylor Johnson Temperament Analysis Test. Donnelly, found no significant relationships between specific personality descriptions on the two tests. However, he did find a general relationship between the selection of colors and the way subjects responded to the temperament scale. There was an 81% agreement between the two tests which was a good general indicator that some degree of concurrent validity was present. When the test was reviewed for the seventh mental measurement yearbook, Lee and Murstein refuted the test as being useful in psychology (Buros, 1972).

Validity of the Luscher Color Test was studied by Robinson (1975). Robinson administered the short form of the Luscher Color Test as well as the Eysenck Personality Inventory. Paying special attention to responses Luscher (1969) predicted for ex-centric (extraverted) and concentric (introverted) personalities. The mean Eysenck Personality Inventory scores were determined for those Subjects who demonstrated ex-centric, concentric, or neither behavior on the Luscher Color Test. Analysis of variance of the data did not yield significant results at any level. No discernible correlations were found, casting serious doubt on the validity of introversion and extraversion inferences based on the Luscher Color Test.

Color Preference Survey (Demographic and General Color Preference)

The third instrument used for the purposes of this study was the survey portions of the Color Preference Survey (see appendix p. 52, 54, and 55). Survey portions of the Color Preference Survey were designed to obtain specific information including demographics, favorite and disliked colors, present livingroom colors, a few questions

concerning present housing type and colors, and the appropriateness of the twelve livingroom colors to other spaces in a home; kitchen, bathroom, and bedroom.

Livingroom Environments

The fourth and final instrument used in data collection was a series of twelve differently colored livingroom environments (see appendix p. 59-70). Subjects were asked to respond to the livingroom renderings using a seven point Osgood Scale. Each rendering was of the same livingroom to avoid discrepancies in furniture or accessories. Consequently, the livingroom environments or renderings differed only in color.

Twelve monochromatic analogous color schemes were selected for the renderings. Seven colors, blue, yellow, red/orange, green, rust, and gray, were reproduced from the Luscher Color Test color cards, while the next four colors, turquoise, red/pink, purple/lavender, and brown came from Faber Birren's Color in Your World. The last color, a neutral ivory/beige, was chosen on the basis of previous color preference research completed in a graduate level environmental behavioral class during the spring of 1984.

The original livingroom drawing was executed in black ink with a technical pen. The twelve livingroom drawings were rendered with water base markers and colored pencils on black line prints.

Data Collection

The Color Preference Survey was administered to subjects in the four class sections at the regularly scheduled class times and places during the 1985 Fall Semester. The Color Preference Survey was distributed to each subject after verbal instructions had been given. Verbal instructions included the introduction of the researcher and research to subjects, and an explanation of the Color Preference Survey. Subjects were informed that the survey was not meant to be long and laborious, and not to think too long about any one question or color. They were to simply mark down their first impression. Subjects were asked to

read the instructions carefully and to complete all questions. Visual testing materials included the eight color cards of the Luscher Color Test and the twelve rendered livingroom environments.

Written instructions to subjects about the Eysenck Personality Inventory included asking subjects to complete each question with a yes or no response. There were no trick questions, so subjects were asked to mark in the response that best represented their usual way of acting or feeling. Written instruction to subjects concerning the Luscher Color Test asked subjects not to associate colors with material items such as clothing or automobiles but to simply choose the color which they liked best or were most attracted to. Subjects select the best liked color from the eight color cards and then rank the remaining seven colors from the most to the least liked. The second ranking of Luscher Color Test colors was accompanied by the instructions not to purposely produce or avoid reproducing the first selection.

Visual materials were positioned in view of all subjects at the front of each classroom. The researcher was available for any further questions. Surveys were then distributed to each subject. Subjects were given as much time as needed to complete the survey; however, most were finished in 15 to 25 minutes.

Test Environment 1

Data for section 2 of Psychology 1113 was collected in room 002 of Ag Hall. The room was pie shaped in design with five two-step risers and seated 105. The room had no windows so was lit entirely with fluorescent lighting. The walls and ceiling were white, carpeting red, and desk chairs gray with white desk tops.

Test Environment 2

Data for section 13 of Psychology 1113 was collected in room 201 of Home Economics West. The room was rectangular in shape and was furnished with desks to seat

46 students. The classroom had five windows on the north wall which were treated with black venetian blinds. Additionally, fluorescent lighting was used. The walls were painted pale lemon yellow, the ceiling was white acoustical tile, and the floor was covered with gray vinyl tile.

Test Environment 3 and 4

Data for sections 1 and 2 of FRCD 3143 was collected in a double room, 230-231 of Home Economics West. The room was very long, narrow, and rectangular in shape and was furnished with desks to seat 74 students. The north wall was lined by a row of nine windows which were treated with black venetian blinds. Fluorescent lighting was also used. The north wall was painted an intense peach while the other three walls were painted a lighter shade of peach. The ceiling was white acoustical tile and the floor was covered with reddish brown vinyl tile.

Data Analysis

One major statistical technique was used to test study objectives. The analytical procedure used was Pearson's product moment coefficient. Correlations were considered significant at an alpha level of .05. Data from the Color Preference Survey was input and processed at the Computer Center of Oklahoma State University. Color Preference Survey data was checked for accuracy before statistical procedures were completed.

CHAPTER IV

RESULTS AND DISCUSSION

The purpose of this chapter was to report research findings. The research data was organized into two sections; sample description and analyses by study objectives. Background information from the Color Preference Survey was reported first under the heading sample description. Background information included subject's age, sex, ethnic origin, major college of study, and extraversion score. Background information came from questions 1-7 of the Color Preference Survey. Second, findings from study objectives were reported under the heading analyses by research objectives. Data for study objectives came from questions 7, 17, and 19 of the Color Preference Survey.

Sample Description

The sample consisted of 119 caucasian Oklahoma State University students between the ages of eighteen and twenty-three enrolled in sections 2 and 13 of PSYCH 1113 and section 1 and 2 of FRCD 3143. The sample included 34 males and 85 females of which 16.8% were majoring in Home Economics, 5.9% in Engineering, 28.6% in Arts & Sciences, 31.1% in Business, 8.4% in Education, and 9.2% had other majors including nursing, pre-law, pre-med, and undecided. Extraversion (E) scores on the Eysenck Personality Inventory indicated that 38.7% of the subjects scored from 0-12 while 61.3% scored between 13-24 on a scale of 24. Higher (E) scores meant greater extraversion. A substantial portion of subjects, 61.3%, had extraversion scores that fell in a middle range, between 9 and 16.

Analyses by Research Objective

The remainder of this chapter discusses results based upon the objectives outlined in Chapter One. Pearson's product moment correlation was used to analyze objectives two and three. An alpha level of .05 was used to determine significance of correlations.

Objective 1

Objective one was to develop an instrument and pictorial representation of twelve livingroom color schemes.

The end products of this objective (an instrument and twelve livingroom renderings) were developed as data collection tools for objectives two and three of this study. The instrument, the Color Preference Survey, and the twelve color livingroom environments were discussed under the instrumentation section of Chapter Three p. 19-23 and can be seen in the appendix p. 52-57 and p. 59-70.

Objective 2

Objective two was to compare color preferences between the Luscher Color Test and twelve livingroom environments.

Pearson's product moment correlation was used to analyze results of the second Luscher Color Test, question 19 and the twelve livingroom environments, questions 17 of the Color Preference Survey. Each of the eight Luscher Colors were correlated individually with the twelve livingroom color schemes.

Luscher Gray

Results suggested a significant negative relationship ($r = -.5143$, $p = .000$) existed between Luscher gray and the gray livingroom environment. This inferred that subjects who preferred gray as a livingroom color ranked gray high on the Luscher Color Test. Significant positive relationships (green; $r = .2170$, $p = .009$), (red/orange; $r = .2397$, $p = .004$), (turquoise; $r = .2552$, $p = .003$), and (olive green; $r = .1505$, $p = .052$) existed

between Luscher gray and green, red/orange, turquoise, and olive green livingroom environments. This meant that those who found green, red/orange, turquoise, and olive green unappealing as livingroom colors ranked gray high on the Luscher Color Test (Table I).

Luscher Blue

Results indicated that a significant negative relationship ($r = -.1586$, $p = .042$) existed between Luscher blue and the gray livingroom environment. This implied that subjects who found gray appealing as a livingroom color preferred blue on the Luscher Color Test. Significant positive relationships (red/orange; $r = .1988$, $p = .015$), and (turquoise; $r = .1696$, $p = .033$) existed between Luscher blue and red/orange and turquoise livingroom environments. This suggested that those who found red/orange and turquoise unappealing as livingroom colors ranked blue high on the Luscher Color Test (Table II).

Luscher Green

Results indicated that a significant negative relationships (green; $r = -.5147$, $p = .000$) and (olive green; $r = -.2243$, $p = .007$) existed between Luscher green and the green and olive green livingroom environments. This meant that subjects who found green and olive green appealing as a livingroom colors ranked green high on the Luscher Color Test. Significant positive relationships (rust; $r = .1565$, $p = .045$), (purple/lavender; $r = .1716$, $p = .032$), (ivory/beige $r = .1508$, $p = .052$), and (cocoa brown; $r = .1554$, $p = .046$) existed between Luscher green and rust, purple/lavender, ivory/beige, and cocoa brown livingroom environments. This indicated that those who found rust, purple/lavender, ivory/beige, and cocoa brown unappealing as livingroom colors preferred green on the Luscher Color Test (Table III).

TABLE I
CORRELATION COEFFICIENT BETWEEN LUSCHER GRAY AND
TWELVE LIVING ROOM ENVIRONMENT COLORS

Living Room Color	Correlation Coefficient
Gray	-.5143 ^a
Blue	-.0028
Green	.2170 ^b
Red/Orange	.2397 ^c
Yellow	-.0042
Red/Pink	.1465
Rust	.0495
Turquoise	.2552 ^d
Olive Green	.1505 ^e
Purple/Lavender	.0474
Ivory/Beige	-.0638
Cocoa Brown	-.1295

^ap = .000

^bp = .009

^cp = .004

^dp = .003

^ep = .052

TABLE II
CORRELATION COEFFICIENT BETWEEN LUSCHER BLUE AND
TWELVE LIVING ROOM ENVIRONMENT COLORS

Living Room Color	Correlation Coefficient
Gray	-.1586 ^a
Blue	-.1011
Green	.0010
Red/Orange	.1988 ^b
Yellow	.0978
Red/Pink	.0881
Rust	.1248
Turquoise	.1696 ^c
Olive Green	.0259
Purple/Lavender	.1395
Ivory/Beige	-.0577
Cocoa Brown	-.0617

^ap = .042

^bp = .015

^cp = .033

TABLE III
CORRELATION COEFFICIENT BETWEEN LUSCHER GREEN AND
TWELVE LIVING ROOM ENVIRONMENT COLORS

Living Room Color	Correlation Coefficient
Gray	.0837
Blue	-.0059
Green	-.5417 ^a
Red/Orange	.1367
Yellow	.0325
Red/Pink	.0823
Rust	.1565 ^b
Turquoise	-.0639
Olive Green	-.2243 ^c
Purple/Lavender	.1716 ^d
Ivory/Beige	.1508 ^e
Cocoa Brown	.1554 ^f

^ap = .000

^bp = .045

^cp = .007

^dp = .032

^ep = .052

^fp = .046

Luscher Red Orange

Results indicated that a significant negative relationship (red/orange; $r = -.4567$, $p = .000$), (yellow; $r = -.2028$, $p = .013$), (rust; $r = -.1868$, $p = .021$), (turquoise; $r = -.1573$, $p = .045$) existed between Luscher red orange and the red/orange, yellow, rust, and turquoise livingroom environments. This inferred that subjects who found red/orange, yellow, rust, and turquoise appealing as livingroom colors ranked red/orange high on the Luscher Color Test. A significant positive relationship (gray; $r = .2031$, $p = .013$) existed between Luscher red orange and the gray livingroom environment. This implied that those who ranked red/orange high on the Luscher Color Test found gray unappealing as a livingroom color (Table IV).

Luscher Yellow

Results suggested a significant negative relationship ($r = -.3010$, $p = .000$) existed between Luscher yellow and the yellow livingroom environment. This meant that subject's who preferred yellow as a livingroom color also preferred yellow on the Luscher Color Test. Significant positive relationships (gray; $r = .1893$, $p = .020$) and (olive green; $r = .2032$, $p = .014$) existed between Luscher yellow and gray and olive green livingroom environments. This construed that those who found gray and olive green unappealing as livingroom colors ranked yellow high on the Luscher Color Test (Table V).

Luscher Violet

Results indicated that significant negative relationships (red/pink; $r = -.1659$, $p = .036$), (turquoise; $r = -.1631$, $p = .039$), and (purple/lavender; $r = -.2420$, $p = .004$) existed between Luscher violet and the red/pink, turquoise, and purple/lavender livingroom environments. This inferred that subjects who preferred red/pink, turquoise, and purple/lavender as livingroom colors ranked violet high on the Luscher Color Test. Significant positive relationships (gray; $r = .2023$, $p = .014$), (green; $r = .2124$, $p = .010$),

TABLE IV
CORRELATION COEFFICIENT BETWEEN LUSCHER RED ORANGE
AND TWELVE LIVING ROOM ENVIRONMENT COLORS

Living Room Color	Correlation Coefficient
Gray	.2031 ^a
Blue	-.0396
Green	-.0227
Red/Orange	-.4567 ^b
Yellow	-.2028 ^c
Red/Pink	-.1330
Rust	.1868 ^d
Turquoise	-.1573 ^e
Olive Green	-.1149
Purple/Lavender	-.1006
Ivory/Beige	.0123
Cocoa Brown	-.0679

^ap=.013

^bp=.000

^cp=.013

^dp=.021

^ep=.045

TABLE V
CORRELATION COEFFICIENT BETWEEN LUSCHER YELLOW
AND TWELVE LIVING ROOM ENVIRONMENT COLORS

Living Room Color	Correlation Coefficient
Gray	.1893 ^a
Blue	-.0602
Green	-.0384
Red/Orange	.0600
Yellow	-.3010 ^b
Red/Pink	.0099
Rust	.1222
Turquoise	.1037
Olive Green	.2032 ^c
Purple/Lavender	-.0654
Ivory/Beige	-.0188
Cocoa Brown	.0757

^ap=.020

^bp=.000

^cp=.014

(yellow; $r = .3301$, $p = .000$), and (olive green; $r = .2198$, $p = .008$) existed between Luscher violet and gray, green, yellow, and olive green livingroom environments. This inferred that those who found gray, green, yellow, and olive green unappealing as livingroom colors preferred violet on the Luscher Color Test (Table VI).

Luscher Rust

Results suggested that significant negative relationships (red/orange; $r = -.2926$, $p = .001$), (rust; $r = -.3629$, $p = .000$), and (olive green; $r = -.1484$, $p = .054$) existed between Luscher rust and the red/orange, rust, and olive green livingroom environments. This meant that subjects who preferred red/orange, rust, and olive green as livingroom colors ranked rust high on the Luscher Color Test. Significant positive relationships (gray; $r = .1689$, $p = .033$) and (green; $r = .3020$, $p = .000$) existed between Luscher rust and gray and green livingroom environments. This meant that those who found gray and green unappealing as livingroom colors ranked rust high on the Luscher Color Test (Table VII).

Luscher Black

Results indicated that significant negative relationships (gray; $r = -.2239$, $p = .007$) and (olive green; $r = -.1535$, $p = .049$) existed between Luscher black and gray and olive green livingroom environments. This construed that subjects who found gray and olive green appealing as a livingroom colors preferred black on the Luscher Color Test. No significant positive relationships existed between Luscher black and any of the twelve livingroom colors (Table VIII).

Objective 3

Objective three was to determine whether there was a relationship between personality (extraversion scores) and livingroom color preferences.

Pearson's product moment correlation was used to analyze results of the Eysenck Personality Inventory extraversion scores, question 7 and the twelve livingroom

TABLE VI
CORRELATION COEFFICIENT BETWEEN LUSCHER VIOLET
AND TWELVE LIVING ROOM ENVIRONMENT COLORS

Living Room Color	Correlation Coefficient
Gray	.2023 ^a
Blue	.0477
Green	.2124 ^b
Red/Orange	.0795
Yellow	.3301 ^c
Red/Pink	-.1659 ^d
Rust	.0257
Turquoise	-.1631 ^e
Olive Green	.2198 ^f
Purple/Lavender	-.2420 ^g
Ivory/Beige	-.0420
Cocoa Brown	.0805

^ap = .014

^bp = .010

^cp = .000

^dp = .036

^ep = .039

^fp = .008

^gp = .004

TABLE VII
CORRELATION COEFFICIENT BETWEEN LUSCHER RUST
AND TWELVE LIVING ROOM ENVIRONMENT COLORS

Living Room Color	Correlation Coefficient
Gray	.1689 ^a
Blue	.0718
Green	.3020 ^b
Red/Orange	-.2926 ^c
Yellow	-.0324
Red/Pink	.0463
Rust	-.3692 ^d
Turquoise	-.1196
Olive Green	-.1484 ^e
Purple/Lavender	-.0409
Ivory/Beige	-.1098
Cocoa Brown	.0116

^ap = .033

^bp = .000

^cp = .001

^dp = .000

^ep = .054

TABLE VIII
CORRELATION COEFFICIENT BETWEEN LUSCHER BLACK
AND TWELVE LIVING ROOM ENVIRONMENT COLORS

Living Room Color	Correlation Coefficient
Gray	-.2239 ^a
Blue	.0957
Green	-.0862
Red/Orange	.0340
Yellow	.1111
Red/Pink	.0534
Rust	.0470
Turquoise	-.0058
Olive Green	-.1535 ^b
Purple/Lavender	.1349
Ivory/Beige	.1165
Cocoa Brown	-.0907

^ap=.007

^bp=.049

environments, question 17 of the Color Preference Survey. Results indicated that a significant positive relationship ($r = .2375$, $p = .005$) existed between high extraversion scores and appealingness of yellow as a livingroom color. This meant that those who preferred yellow as a livingroom color had higher extraversion scores. Results also suggested that a significant negative relationship ($r = -.1830$, $p = .023$) existed between low extraversion scores and appealingness of rust as a livingroom color. This inferred that those who preferred rust as a livingroom color had lower extraversion scores (Table IX).

TABLE IX
CORRELATION COEFFICIENT BETWEEN EXTRAVERSION SCORES
AND TWELVE LIVING ROOM ENVIRONMENT COLORS

Living Room Color	Correlation Coefficient
Gray	.0155
Blue	-.0990
Green	.0555
Red/Orange	.0768
Yellow	.2375 ^a
Red/Pink	.0936
Rust	-.1830 ^b
Turquoise	-.1056
Olive Green	-.0211
Purple/Lavender	.0738
Ivory/Beige	-.0489
Cocoa Brown	-.0755

^ap = .005

^bp = .023

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

Color is an integral part of our daily lives. Color preferences and trends have an enormous influence on the colors that surround us in the work place and at home. Thus far, color preferences have been the topic of a number of studies (von Allesch, 1924; Eysenck, 1941; Choungourian, 1967, 1972; Gotz & Gotz, 1975; Robinson, 1975; Stimpson & Stimpson, 1979; and Aguilera, 1980). While general color preferences are said to be fairly universal (Eysenck, 1941), color preferences for the home seem to be more fluctuating (Danger, 1968). This researcher found few studies which investigated the relationships between general color preferences, personality extraversion, and color preferences in the home environment.

Summary

The purpose of this research was to study the relationships between general color preferences and livingroom color preferences and between personality and livingroom color preferences. Specifically, the research was planned around the following three objectives: (1) to develop an instrument and pictorial representation of twelve livingroom color schemes, (2) to compare color preferences between the Luscher Color Test and the twelve livingroom environments, and (3) to determine the relationship between personality (introversion and extraversion) and livingroom color preferences.

Findings

Correlation of the second Luscher Color Test ranking with semantic differential rating (Osgood Scale) of the twelve livingroom environments indicated a significant negative relationship between the following Luscher colors and livingroom environments: Luscher gray and the gray livingroom, Luscher blue and the gray livingroom, Luscher green and the green and olive green livingrooms, Luscher red orange and the red/orange, yellow, rust, and turquoise livingrooms, Luscher yellow and the yellow livingroom, Luscher violet and the red/pink, turquoise, and purple/lavender livingroom environments, Luscher rust and the red/orange, rust, and olive green livingrooms, and between Luscher black and the gray and olive green livingroom environments. A significant negative relationship meant that when the Luscher colors were preferred or highly ranked the livingroom colors were also preferred or found appealing.

Correlation of the second Luscher Color Test ranking with semantic differential rating (Osgood Scale) of the twelve livingroom environments indicated a significant positive relationship between the following Luscher colors and livingroom environments: Luscher gray and the green, red/orange, turquoise, and olive green livingrooms, Luscher blue and red/orange and turquoise livingrooms, Luscher green and rust, purple/lavender, ivory/beige, and cocoa brown livingrooms, Luscher red orange and the gray livingroom, Luscher yellow and gray and olive green livingrooms, Luscher violet and the gray, green, yellow, and olive green livingrooms, and Luscher rust and the gray and green livingrooms. No significant positive relationships were found between Luscher black and the twelve livingroom colors. A significant positive correlation revealed that when the Luscher colors were preferred or highly ranked the livingroom colors were not preferred and were found to be unappealing.

Correlation of the Eysenck Personality Inventory (extraversion score) with semantic differential ratings (Osgood Scale) of the twelve livingroom environments revealed a significant positive relationship between a preference for yellow as a livingroom color and

high extraversion scores. A significant negative relationship was found between low extraversion scores and a preference for rust as a livingroom color. In other words, a preference for a yellow living correlated with high extraversion while preference for a rust colored livingroom correlated with low extraversion scores or (introversion).

Conclusions

Based on the analyses of the data for this study, the following conclusions were made.

1. Research indicated that subjects who generally preferred a color(s) also preferred the use of the same color(s) in the decoration of their livingroom environments.
2. Research indicated that subjects who generally preferred a color(s) often found the opposite or compliment of that color unappealing as a livingroom color.
3. Research indicated that preference for yellow livingroom (warm and bright in color) correlated with higher extraversion scores while preference for a rust colored livingroom (cool and dull in color) correlated with lower extraversion scores or introversion.

Discussion

Study results indicated that colors subject's preferred generally (Luscher Color Test) were also preferred as livingroom colors. When gray, green, red orange, yellow, violet and rust were preferred on the Luscher Color Test, they were also preferred as livingroom colors (Table X). Study results also suggested that livingroom colors opposite or complimentary to those generally preferred on the Luscher Color Test were found unappealing by subjects (Table XI).

Results showed that high extraversion scores correlated significantly with a preference for yellow as a livingroom color and low extraversion scores correlated significantly with rust as a livingroom color. These findings suggested, as did previous

TABLE X
SIGNIFICANT NEGATIVE CORRELATIONS (HIGH RANKING LUSCHER
COLORS AND APPEALING LIVINGROOM COLORS)

Luscher Color	Appealing Living Room Colors
Gray	Gray
Blue	Gray
Green	Green, Olive Green
Red Orange	Red/Orange, Yellow, Rust, and Turquoise
Yellow	Yellow
Violet	Red/Pink, Turquoise, and Purple/Lavender
Rust	Red/Orange, Rust, and Olive Green
Black	Gray and Olive Green

TABLE XI
SIGNIFICANT POSITIVE CORRELATIONS (HIGH RANKING LUSCHER
COLORS AND APPEALING LIVINGROOM COLORS)

Luscher Color	Appealing Living Room Colors
Gray	Green, Red/Orange, Turquoise, and Olive Green
Blue	Red/Orange and Turquoise
Green	Rust, Purple/Lavender, Ivory/Beige, and Cocoa Brown
Red Orange	Gray
Yellow	Gray and Olive Green
Violet	Gray, Green, Yellow, and Olive Green
Rust	Gray and Green
Black	-----

literature, that personality extraversion was associated with preference for warm primary color while introversion has been associated with preference for dull tertiary colors (Barrett & Eaton, 1947; Gotz & Gotz, 1975).

Recommendations

Based on the results of this study the following recommendations were suggested for further research:

1. Repeat study on an adult non-student population with an equal portions of males to females.
2. Change the format of some questions on the Color Preference Survey, so data could be easily put into a computer, checked for accuracy, and statistical procedures setup.
3. Have subjects rank the twelve livingroom colors simply as colors, so the twelve colors could be correlated to their equilent color in a livingroom environment.
4. Use a computer for possible hypothesis testing.
5. Add livingroom renderings in black and white and mauve colors.
6. Study the use of plain colored verses patterned surroundings and the effects of personality.
7. Study the use of complimentary verses analogous color schemes and the effects of personality.

REFERENCES

- Akey, D.S. (Ed.) Encyclopedia of Associations. Detroit, MI: Gale Research Co., 1, 1982.
- Anderson, D.M. Elements of Design. New York: Holt, Rinehart and Winston, Inc., 1961.
- Auguilera, D.M. "A Comparison of Color Preferences, State Anxiety, and Introversion-Extroversion." Dissertation Abstracts International, 42, 1 (July 1981) 405-B.
- Barrett, D.M., and E.B. Eaton. "Preference for color or tint and some related personality data." Journal of Personality, 15 (1947), 222-232.
- Bernardo, J. "Psychology of Design". 1982.
- Best, J.W. Research in Education. Englewood Cliffs, New Jersey: Printice-Hall, 1963.
- Birren, F. Color in Your World. New York: Collier Books, 1962.
- Birren, F. "Color Preference as a Clue to Personality." Art Psychotherapy, 1 (1973), 13-16.
- Birren, F. Color Psychology and Color Therapy. New York: McGraw-Hill Book Co., 1950.
- Buros, O.K. (Ed.) The Seventh Mental Measurements Yearbook. Highland Park, N.J.: Gryphon Press, (1972) 211-214.
- Cheskin, L. Colors-What They Can Do for You. New York: Liveright Publishing, 1947.
- Choungourian, A. "Introversion-Extraversion and Color Preferences." Journal of Projective Techniques and Personality Assessment, 31 (1967), 92-94.
- Cohen, E. "Color Forecast 1984-85: Predictions from the Color Association of the United States." Interior Design, 52, 4 (1983) 222-225.
- Cohn, J. "Experimentelle Untersuchungen uber die Gefuhlsbetonung der Farben, Helligkeiten und ihre Combinationen." Philos. Stud., 10 (1984), 562-603.
- Danger, E.P. Using Colour to Sell. London: Gower Press, 1968.
- Donnelly, F.A. "The Luscher Color Test: A Validity Study." Perceptual and Motor Skills. 44 (1977) 17-18.
- Eysenck, H.J. "A critical and Experimental Study of Colour Preferences." American Journal of Psychology, 54, 7 (1941), 385-394.

- Eysenck, H.J. Manual of the Eysenck Personality Inventory. San Diego: Educational & Industrial Testing Service, 1968.
- Forgus, R.H. and L.E. Melamed. 2nd Ed. Perception a Cognitive-Stage Approach. New York: McGraw-Hill Book Co., 1976.
- Gotz, K.O. and K. Gotz. "Color Preferences, Extraversion and Neuroticism of Art Students." Perceptual and Motor Skills, 41 (1975), 919-930.
- Guilford, J.P. and P.C. Smith. "A system of color-preferences." American Journal of Psychology, 72 (1959), 487,502.
- Hayter, E.F. Behind the Scenes in Fashion Merchandising. New York: Pageant Press, 1965.
- Hurvich, L.M. and D. Jameson. "Opponet process as a model of neural organization." American Psychologist, 29 (1974), 88-102.
- Inui, M. Practical Analysis of Interior Color Environment, Report No. 27. Tokyo Building Research Institute, 1966.
- Itten, J. The Elements of Color. New York: Van Norstrand Reinhold Co., 1970.
- Kane, L. "The Power of Color." Health, 7 (1982) 36-37.
- Katz, D. Gestalt Psychology. New York: Ronald Press, 1950.
- Luscher, M. and I. Scott. The Luscher Color Test. New York: Random House, 1969.
- Sharpe, D.T. The Psychology of Color and Design. Chicago: Nelson-Hall, 1974.
- Robinson, C. "Color preference as a function Introversion and Extraversion." Perceptual and Motor Skills, 40 (1975), 702.
- Sivik, L. "Colour meaning and perceptual colour dimension: study of exterior colours." Goteborg Psychological Reports, 4, 11 (1974).
- Slatter, P.E. and T.W.A. Whitfield. "Room function and appropriateness judgments of color." Perceptual and Motor Skills, 1945 (1977) 1068-1070.
- Sproles, G.B. Perspectives of Fashion. Minneapolis: Burgess Publishing, 1981.
- Stevenson, W. "Correlating Persons instead of Tests." Character and Personality, 4 (1935), 17-24.
- Tellegen, A. (Ed.) The Eighth Mental Measurements Yearbook. Highland Park, N.J.: Gryphon Press, 1978, pp. 802-804.
- "Understand Color." American Fabrics, 47 (1959) 99-105.
- von Goethe, J.W. Farbenlehre Weimar, 1810.

Walton, W.E., R.B. Guilford, and J.P. Guilford. "Color Preferences of 1279 Univerisity Students." American Journal of Psychology, 45 (1933), 322-328.

APPENDIXES

APPENDIX A
DATA COLLECTION TOOLS

COLOR PREFERENCE SURVEY

Q-1 What is your present age? (Circle the appropriate number below)

- 1 UNDER 18
- 2 18-23
- 3 24-29
- 4 30-35
- 5 36-41
- 6 42-47
- 7 48-53
- 8 54-59
- 9 60-65
- 10 OVER 65

Q-2 What is your sex? (Circle appropriate number)

- 1 FEMALE
- 2 MALE

Q-3 What is your personality type? (Circle the appropriate number)

- 1 VERY INTROVERTED
- 2 MODERATELY INTROVERTED
- 3 SLIGHTLY INTROVERTED
- 4 SLIGHTLY EXTRAVERTED
- 5 MODERATELY EXTRAVERTED
- 6 VERY EXTRAVERTED

Q-4 What is your ethnic background? (Circle appropriate number)

- 1 CAUCASIAN
- 2 BLACK
- 3 INDIAN
- 4 HISPANIC
- 5 ORIENTAL
- 6 ASIAN
- 7 OTHER...(specify) _____

Q-5 What is your grade classification? (Circle appropriate number)

- 1 FRESHMAN
- 2 SOPHOMORE
- 3 JUNIOR
- 4 SENIOR
- 5 GRADUATE STUDENT
- 6 SPECIAL STUDENT
- 7 OTHER...(specify) _____

Q-6 What is your occupation or major field of study?

- 1 PLEASE SPECIFY _____

Q-7 **DIRECTIONS:** Please answer each question on the following page with a "Yes" or "No" response. There are no right or wrong answers, and no trick questions, so simply color in the response that best represents your usual way of acting or feeling. Work quickly and do not spend too much time thinking about the exact meaning of a question.

Section of Answer Column Correctly Marked	
Yes	No
█	
Yes	No
	█

- | | | | | |
|--|-----|----|--|--|
| 1. Do you often long for excitement? | Yes | No | | |
| 2. Do you often need understanding friends to cheer you up? | Yes | No | | |
| 3. Are you usually carefree? | Yes | No | | |
| 4. Do you find it very hard to take no for an answer? | Yes | No | | |
| 5. Do you stop and think things over before doing anything? | Yes | No | | |
| 6. If you say you will do something do you always keep your promise, no matter how inconvenient it might be to do so? | Yes | No | | |
| 7. Does your mood often go up and down? | Yes | No | | |
| 8. Do you generally do and say things quickly without stopping to think? | Yes | No | | |
| 9. Do you ever feel "just miserable" for no good reason? | Yes | No | | |
| 10. Would you do almost anything for a dare? | Yes | No | | |
| 11. Do you suddenly feel shy when you want to talk to an attractive stranger? | Yes | No | | |
| 12. Once in a while do you lose your temper and get angry? | Yes | No | | |
| 13. Do you often do things on the spur of the moment? | Yes | No | | |
| 14. Do you often worry about things you should not have done or said? | Yes | No | | |
| 15. Generally do you prefer reading to meeting people? | Yes | No | | |
| 16. Are your feelings rather easily hurt? | Yes | No | | |
| 17. Do you like going out a lot? | Yes | No | | |
| 18. Do you occasionally have thoughts and ideas that you would not like other people to know about? | Yes | No | | |
| 19. Are you sometimes bubbling over with energy and sometimes very sluggish? | Yes | No | | |
| 20. Do you prefer to have few but special friends? | Yes | No | | |
| 21. Do you daydream a lot? | Yes | No | | |
| 22. When people shout at you, do you shout back? | Yes | No | | |
| 23. Are you often troubled about feelings of guilt? | Yes | No | | |
| 24. Are all your habits good and desirable ones? | Yes | No | | |
| 25. Can you usually let yourself go and enjoy yourself a lot at a party? | Yes | No | | |
| 26. Would you call yourself tense or "highly-strung"? | Yes | No | | |
| 27. Do other people think of you as being very lively? | Yes | No | | |
| 28. After you have done something important do you often come away feeling you could have done better? | Yes | No | | |
| 29. Are you mostly quiet when you are with other people? | Yes | No | | |
| 30. Do you sometimes gossip? | Yes | No | | |
| 31. Do ideas run through your head so that you cannot sleep? | Yes | No | | |
| 32. If there is something you want to know about, would you rather look it up in a book than talk to someone about it? | Yes | No | | |
| 33. Do you get palpitations or thumping in your heart? | Yes | No | | |
| 34. Do you like the kind of work that you need to pay close attention to? | Yes | No | | |
| 35. Do you get attacks of shaking or trembling? | Yes | No | | |
| 36. Would you always declare everything at the customs, even if you knew that you could never be found out? | Yes | No | | |
| 37. Do you hate being with a crowd who play jokes on one another? | Yes | No | | |
| 38. Are you an irritable person? | Yes | No | | |
| 39. Do you like doing things in which you have to act quickly? | Yes | No | | |
| 40. Do you worry about awful things that might happen? | Yes | No | | |
| 41. Are you slow and unburied in the way you move? | Yes | No | | |
| 42. Have you ever been late for an appointment or work? | Yes | No | | |
| 43. Do you have many nightmares? | Yes | No | | |
| 44. Do you like talking to people so much that you would never miss a chance of talking to a stranger? | Yes | No | | |
| 45. Are you troubled by aches and pains? | Yes | No | | |
| 46. Would you be very unhappy if you could not see lots of people most of the time? | Yes | No | | |
| 47. Would you call yourself a nervous person? | Yes | No | | |
| 48. Of all the people you know are there some whom you definitely do not like? | Yes | No | | |
| 49. Would you say you were fairly self-confident? | Yes | No | | |
| 50. Are you easily hurt when people find fault with you or your work? | Yes | No | | |
| 51. Do you find it hard to really enjoy yourself at a lively party? | Yes | No | | |
| 52. Are you troubled with feelings of inferiority? | Yes | No | | |
| 53. Can you easily get some life into a rather dull party? | Yes | No | | |
| 54. Do you sometimes talk about things you know nothing about? | Yes | No | | |
| 55. Do you worry about your health? | Yes | No | | |
| 56. Do you like playing pranks on others? | Yes | No | | |
| 57. Do you suffer from sleeplessness? | Yes | No | | |

PLEASE CHECK TO SEE THAT YOU HAVE ANSWERED ALL THE QUESTIONS

2.

Q-8 What is your favorite color(s)? (Circle appropriate number(s))

- 1 GRAY
- 2 BLUE
- 3 GREEN
- 4 RED
- 5 ORANGE
- 6 YELLOW
- 7 PINK
- 8 RUST
- 9 TURQUOISE
- 10 OLIVE GREEN
- 11 PURPLE/LAVENDER
- 12 IVORY/BEIGE
- 13 BROWN
- 14 OTHER...(specify)_____

Q-9 Do you dislike any of the following colors? (Circle appropriate number(s))

- 1 GRAY
- 2 BLUE
- 3 GREEN
- 4 RED
- 5 ORANGE
- 6 YELLOW
- 7 PINK
- 8 RUST
- 9 TURQUOISE
- 10 OLIVE GREEN
- 11 PURPLE/LAVENDER
- 12 IVORY/BEIGE
- 13 BROWN
- 14 I LIKE ALL THESE COLORS

Q-10 Look at the eight colors on the Luscher Color Test board and decide which color you like the best. DO NOT try to associate the color with something else, such as clothing, furnishings, or automobiles, etc. Just choose the color for which you have the most sympathy or attraction. Then rank the eight colors in the order you prefer them, with 1 representing the most liked color and 8 representing the least liked color.

<u>Color</u>	<u>Rank</u>
GRAY	_____
BLUE	_____
GREEN	_____
RED CRANGE	_____
YELLOW	_____
VICLET	_____
RUST	_____
BLACK	_____

Q-11 What type of color scheme do you prefer for your living room?
(Circle the appropriate number below)

- 1 A COLOR SCHEME INVOLVING ONLY ONE COLOR
- 2 A COLOR SCHEME INVOLVING TWO COLORS
- 3 A COLOR SCHEME INVOLVING THREE OR MORE COLORS

Q-12 What color(s) is your living room presently decorated in?
(Please circle appropriate number(s) below)

- 1 GRAY
- 2 BLUE
- 3 GREEN
- 4 RED
- 5 ORANGE
- 6 YELLOW
- 7 GOLD
- 8 RUST
- 9 BLACK
- 10 WHITE
- 11 PINK
- 12 TURQUOISE
- 13 OLIVE GREEN
- 14 PURPLE/LAVENDER
- 15 IVORY/BEIGE
- 16 BROWN
- 17 OTHER...(specify) _____

Q-13 What type of housing do you presently live in? (Circle appropriate number)

- 1 APARTMENT
- 2 CONDOMINIUM
- 3 SINGLE FAMILY HOUSE
- 4 DORMITORY/RESIDENCE HALL
- 5 SORORITY OR FRATERNITY HOUSE
- 6 OTHER...(Please specify) _____

Q-14 Do you own or rent your home? (Please circle appropriate number below)

- 1 RENT
- 2 OWN
- 3 OTHER...(specify) _____

Q-15 How often do you change the colors in your living room?
(Circle appropriate number below)

- 1 EVERY 1-2 YEARS
- 2 EVERY 3-5 YEARS
- 3 EVERY 6-10 YEARS
- 4 EVERY 11-15 YEARS
- 5 EVERY 16-20 YEARS
- 6 NOT APPLICABLE
- 7 OTHER...(specify) _____

Q-16 When selecting a new color for the living room, do you try to pick
a color that will _____? (Circle appropriate number(s) below)

- 1 CREATE ATMOSPHERE OR MOOD
- 2 ENLARGE THE SPACE
- 3 SIMPLY BE A CHANGE FROM THE PRESENT
- 4 BE FASHIONABLE
- 5 OTHER...(specify) _____

DIRECTIONS: Considering the (12) color drawings, circle one number on each seven point scale that best describes your feelings about the use of each color in your LIVING ROOM.

Q-17 Would you describe the use of this color in your living room as unappealing, neutral, or appealing?

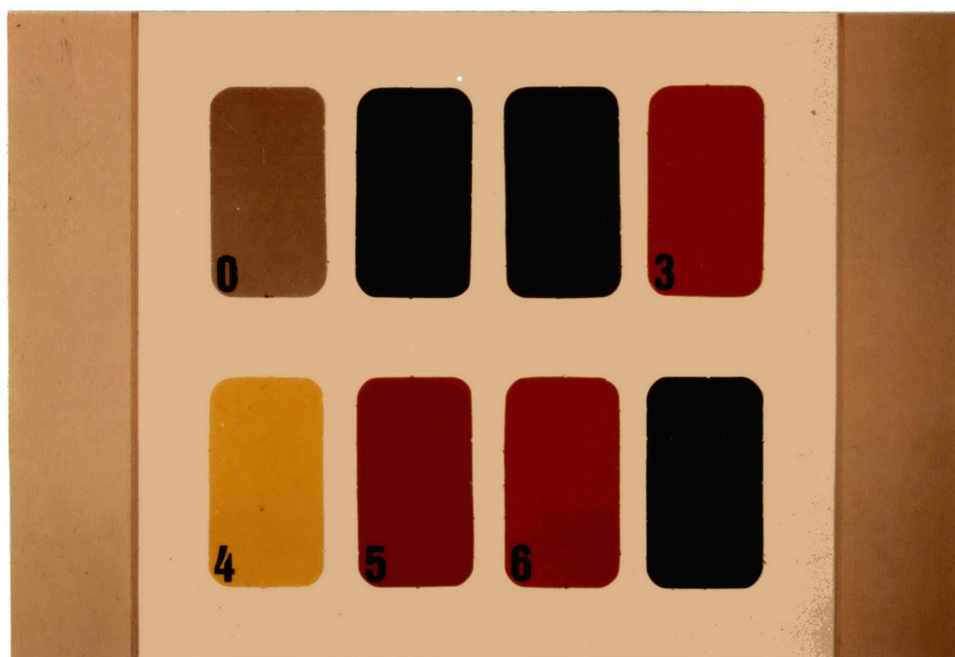
	<u>Unappealing</u>		<u>Neutral</u>			<u>Appealing</u>	
GRAY	1	2	3	4	5	6	7
BLUE	1	2	3	4	5	6	7
GREEN	1	2	3	4	5	6	7
RED/ORANGE	1	2	3	4	5	6	7
YELLOW	1	2	3	4	5	6	7
RED/PINK	1	2	3	4	5	6	7
RUST	1	2	3	4	5	6	7
TURQUOISE	1	2	3	4	5	6	7
OLIVE GREEN	1	2	3	4	5	6	7
PURPLE/LAVENDER	1	2	3	4	5	6	7
IVORY/BEIGE	1	2	3	4	5	6	7
COCOA BROWN	1	2	3	4	5	6	7

Q-18 DIRECTIONS: Considering the four room categories and the twelve colors listed below, place a check-mark (✓) by the color(s) you would prefer in the decoration of each of these rooms in your own home.


	Living	Kitchen	Bedroom	Bathroom
GRAY				
BLUE				
GREEN				
RED/ORANGE				
YELLOW				
RED/PINK				
RUST				
TURQUOISE				
OLIVE GREEN				
PURPLE/LAVENDER				
IVORY/BEIGE				
COCOA BROWN				

Q-1 READ CAREFULLY This question is a repetition of Q-3, ranking the colors of the Lüscher Color Test. When ranking the eight colors of the test this second time DO NOT try to remember or reproduce your first selection. (Neither should you make a conscious effort not to reproduce it.) Choose the colors as though you were seeing them for the first time. Rank the eight colors in the order you prefer them with 1 representing the most liked color and 8 representing the least liked color.

<u>Color</u>	<u>Rank</u>
GRAY	_____
BLUE	_____
GREEN	_____
RED ORANGE	_____
YELLOW	_____
VIOLET	_____
RUST	_____
BLACK	_____



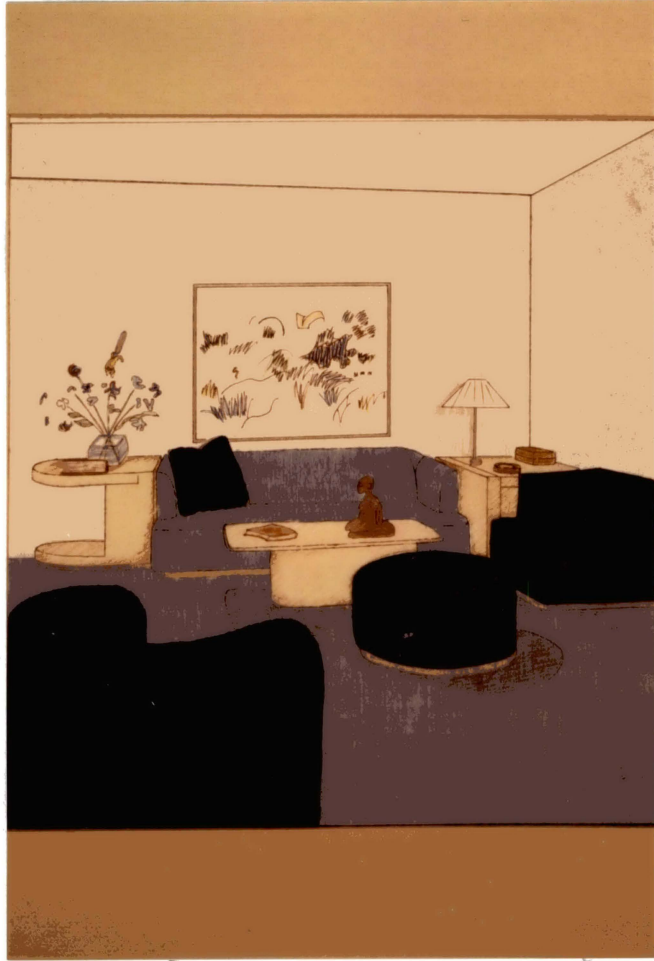
Luscher Colors Test - Colors



LIVINGROOM ENVIRONMENT - RENDERINGS



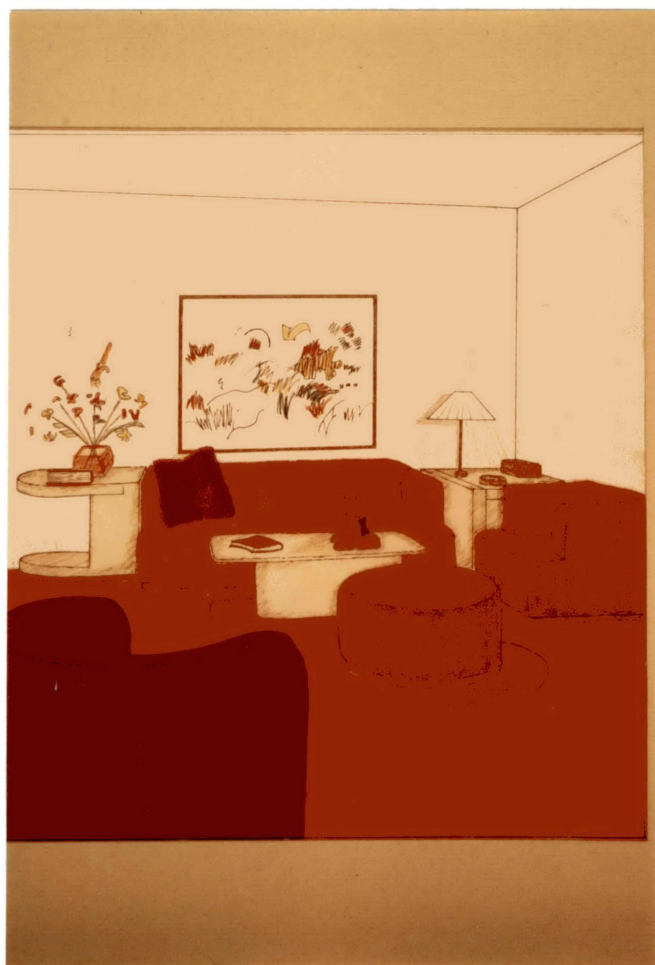
Gray Livingroom Environment



Blue Livingroom Environment



Green Livingroom Environment



Red/Orange Livingroom Environment



Yellow Livingroom Environment



Rust Livingroom Environment



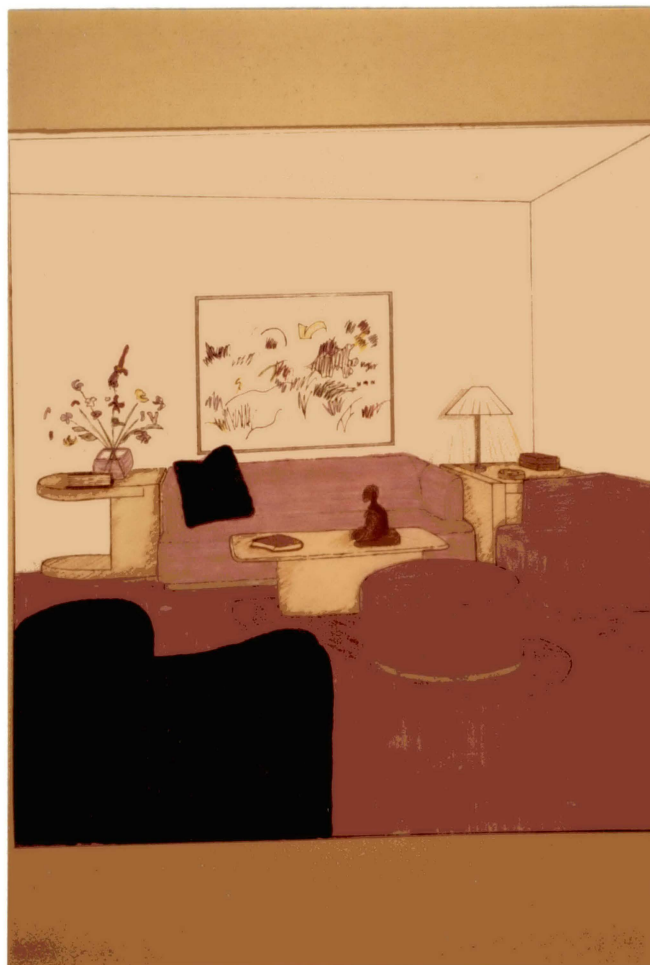
Red/Pink Livingroom Environment



Turquoise Livingroom Environment



Olive Green Livingroom Environment



Purple/Lavender Livingroom Environment



Ivory/Beige Livingroom Environment



Cocoa Brown Livingroom Environment

REVISED

COLOR PREFERENCE QUESTIONNAIRE

Q-1 What is your present age? (Circle appropriate number)

- 1 18-23
- 2 24-29
- 3 30-35
- 4 36-41
- 5 42-47
- 6 48-53
- 7 54-59
- 8 60-65
- 9 OVER 65

Q-2 What is your sex? (Circle appropriate number)

- 1 FEMALE
- 2 MALE

Q-3 What is your ethnic background? (Circle appropriate number)

- 1 CAUCASIAN
- 2 BLACK
- 3 ORIENTAL
- 4 ASIAN
- 5 HISPANIC
- 6 INDIAN
- 7 OTHER...(specify)_____

Q-4 What is your personality type? (Circle appropriate number)
(Introverted being shy or reserve and Extroverted being out going)

- 1 VERY INTROVERTED
- 2 MODERATELY INTROVERTED
- 3 SLIGHTLY INTROVERTED
- 4 SLIGHTLY EXTROVERTED
- 5 MODERATELY EXTROVERTED
- 6 VERY EXTROVERTED

Q-5 What number below best describes your occupation with the University?
(Circle appropriate number)

- 1 HOUSEKEEPER/CUSTODIAN
- 2 FOOD PRODUCTION/FOOD SERVICE
- 3 GROUNDSKEEPER/CARETAKER/STOREKEEPER
- 4 PAINTER/UPHOLSTER/CARPENTER
- 5 MECHANIC/TECHNICIAN
- 6 SECRETARY/CLERK
- 7 SUPERVISOR/MANAGER
- 8 AREA SPECIALIST/AREA ASSISTANT
- 9 COUNSLOR/INTERVIEWER
- 10 AUDITOR/ESTIMATOR
- 11 DATA OR SYSTEM ANALYZER
- 12 ASSISTANT DIRECTOR/DIRECTOR
- 13 ACCOUNTANT/ENGINEER/PHYSICIAN
- 14 INSTRUCTOR/PROFESSOR
- 15 OTHER...(specify)_____

Q-6 What is your favorite color(s)? (Circle appropriate number(s))

- 1 GRAY
- 2 BLUE
- 3 GREEN
- 4 RED
- 5 ORANGE
- 6 YELLOW
- 7 PINK
- 8 RUST
- 9 TURQUOISE
- 10 OLIVE GREEN
- 11 PURPLE/LAVENDER
- 12 IVORY/BEIGE
- 13 BROWN
- 14 OTHER...(specify) _____

Q-7 Look at the eight colors on slide 1 decide which color you like best. DO NOT try to associate the color with something else, such as clothing, furnishings, or automobiles, etc. Just choose the color for which you have the most sympathy or attraction. Then rank the eight colors in the order you prefer them, with 1 representing the most liked color and 8 the least liked color.

<u>Color</u>	<u>Rank</u>
0 GRAY	_____
1 BLUE	_____
2 GREEN	_____
3 RED	_____
4 YELLOW	_____
5 VIOLET	_____
6 RUST	_____
7 BLACK	_____

Q-8 Do you dislike any of the following colors? (Circle appropriate number(s))

- 1 GRAY
- 2 BLUE
- 3 GREEN
- 4 RED/ORANGE
- 5 YELLOW
- 6 RED/PINK
- 7 RUST
- 8 TURQUOISE
- 9 OLIVE GREEN
- 10 PURPLE/LAVENDER
- 11 IVORY/BEIGE
- 12 BROWN
- 13 I LIKE ALL THESE COLORS

Q-9 How often do you remodel or redecorate your living room?
(Circle appropriate number)

- 1 EVERY 1-2 YEARS
- 2 EVERY 3-5 YEARS
- 3 EVERY 6-10 YEARS
- 4 EVERY 11-15 YEARS
- 5 EVERY 16-20 YEARS
- 6 OVER 20 YEARS
- 7 HAVE NOT REMODELED OR REDECORATED LIVING ROOM
- 8 NOT APPLICABLE

Q-10 When you remodeled or redecorated your living room did it involve a change in color? (Circle appropriate number)

- 1 YES
- 2 NO
- 3 NOT APPLICABLE

Q-11 When selecting a new color for your living room did you try to make the color change a fashionable one? (Circle appropriate number)

- 1 YES
- 2 NO
- 3 NOT APPLICABLE

Q-12 What color(s) is your living room presently decorated in?
(Please circle appropriate number(s))

- 1 GRAY
- 2 BLUE
- 3 GREEN
- 4 RED
- 5 ORANGE
- 6 YELLOW
- 7 GOLD
- 8 RUST
- 9 BLACK
- 10 WHITE
- 11 PINK
- 12 TURQUOISE
- 13 OLIVE GREEN
- 14 PURPLE/LAVENDER
- 15 IVORY/BEIGE
- 16 BROWN
- 17 OTHER...(specify) _____

Q-13 What type of color do you prefer for your living room?
(Circle appropriate number)

- 1 A COLOR SCHEME INVOLVING ONLY ONE COLOR
- 2 A COLOR SCHEME INVOLVING TWO OR THREE COLORS
- 3 A COLOR SCHEME INVOLVING FOUR OF MORE COLORS

DIRECTIONS: Considering the 12 color slides that will follow, circle one number on each color scale that best describes your feelings about the use of each color in your LIVING ROOM.

Q-14 Would you describe the use of this color in your living room as appealing or unappealing?

GRAY

Unappealing 1 2 3 4 5 6 7 Appealing

BLUE

Unappealing 1 2 3 4 5 6 7 Appealing

GREEN

Unappealing 1 2 3 4 5 6 7 Appealing

RED/ORANGE

Unappealing 1 2 3 4 5 6 7 Appealing

YELLOW

Unappealing 1 2 3 4 5 6 7 Appealing

RED/PINK

Unappealing 1 2 3 4 5 6 7 Appealing

RUST

Unappealing 1 2 3 4 5 6 7 Appealing

TURQUOISE

Unappealing 1 2 3 4 5 6 7 Appealing

OLIVE GREEN

Unappealing 1 2 3 4 5 6 7 Appealing

PURPLE/LAVENDER

Unappealing 1 2 3 4 5 6 7 Appealing

IVORY/BEIGE

Unappealing 1 2 3 4 5 6 7 Appealing

COCCA BROWN

Unappealing 1 2 3 4 5 6 7 Appealing

DIRECTIONS: Considering the next 12 color slides, circle one number on each scale that best describes your feelings about the use of each color in a room of your home besides the living room.

Q-15 Would you describe the use of this color in a room of your home besides the living room i.e. kitchen, bedroom, bathroom etc. as appealing or unappealing?

GRAY

Unappealing 1 2 3 4 5 6 7 Appealing

BLUE

Unappealing 1 2 3 4 5 6 7 Appealing

GREEN

Unappealing 1 2 3 4 5 6 7 Appealing

RED/ORANGE

Unappealing 1 2 3 4 5 6 7 Appealing

YELLOW

Unappealing 1 2 3 4 5 6 7 Appealing

RED/PINK

Unappealing 1 2 3 4 5 6 7 Appealing

RUST

Unappealing 1 2 3 4 5 6 7 Appealing

TURQUOISE

Unappealing 1 2 3 4 5 6 7 Appealing

OLIVE GREEN

Unappealing 1 2 3 4 5 6 7 Appealing

PURPLE/LAVENDER

Unappealing 1 2 3 4 5 6 7 Appealing

IVORY BEIGE

Unappealing 1 2 3 4 5 6 7 Appealing

COCCA BROWN

Unappealing 1 2 3 4 5 6 7 Appealing

DIRECTIONS: Please answer each question by marking an besides the "YES" or the "NO" following the question. There are no right or wrong answers, and no trick questions. Work quickly and do not think too long about the exact meaning of the question.

PLEASE REMEMBER TO ANSWER EACH QUESTION!

- Q-16 Do you have many different hobbies? YES NO
- Q-17 Are you a talkative person? YES NO
- Q-18 Are you rather lively?. YES NO
- Q-19 Can you usually let yourself go and enjoy yourself at a lively party? . YES NO
- Q-20 Do you enjoy meeting new people?. YES NO
- Q-21 Do you tend to keep in the background on social occasions?. YES NO
- Q-22 Have you ever taken anything (even a pin or button) that belonged to someone else? YES NO
- Q-23 Do you like going out a lot?. YES NO
- Q-24 Do you sometimes talk about things you know nothing about?. YES NO
- Q-25 Would you call yourself a nervous person?. YES NO
- Q-26 As a child did you do as you were told immediately and without grumbling? YES NO
- Q-27 Have you ever broken or lost something belonging to someone else?. . . YES NO
- Q-28 Would you call yourself tense or "highly-strung"? YES NO
- Q-29 Do you sometimes boast a little?. YES NO
- Q-30 Do you like telling jokes and funny stories to your friends?. YES NO
- Q-31 Does it worry you if you know there are mistakes in your work?. . . . YES NO
- Q-32 Do you nearly always have a "ready answer" when people talk to you? . . YES NO
- Q-33 Do you like doing things in which you have to act quickly?. YES NO
- Q-34 Do you often take on more activities than you have time for?. YES NO
- Q-35 Can you get a party going?. YES NO
- Q-36 Have you ever been late for an appointment or work? YES NO
- Q-37 Do you sometimes put off until tomorrow what you ought to do today? . . YES NO

ORIGINAL

COLOR PREFERENCE QUESTIONNAIRE

Q-1 Your present age: (Circle number)

- 1 UNDER 18
- 2 18-23
- 3 24-29
- 4 30-35
- 5 36-41
- 6 42-47
- 7 48-53
- 8 54-59
- 9 60-65
- 10 OVER 65

Q-2 Your sex: (Circle number)

- 1 MALE
- 2 FEMALE

Q-3 Your ethnic origin: (Circle number)

- 1 CAUCASIAN
- 2 BLACK
- 3 HISPANIC
- 4 ORIENTAL
- 5 ASIAN
- 6 INDIAN
- 7 OTHER...(specify)_____

Q-4 Your personality type: (Circle number)

- 1 VERY INTROVERTED
- 2 MODERATELY INTROVERTED
- 3 SLIGHTLY INTROVERTED
- 4 SLIGHTLY EXTROVERTED
- 5 MODERATELY EXTROVERTED
- 6 VERY EXTROVERTED

Q-5 Your occupation: (Circle number)

- 1 CLERICAL/SECRETARIAL
- 2 HOUSEKEEPING/MAINTANIENCE
- 3 SUPERVISORY
- 4 ADMINISTRATIVE
- 5 TEACHING
- 6 RESEARCH
- 7 STUDENT
- 8 OTHER...(specify)_____

Q-6 Do you dislike any of the following color(s)? (Circle number(s))

- 1 GRAY
- 2 BLUE
- 3 GREEN
- 4 RED ORANGE
- 5 YELLOW
- 6 RED/PINK
- 7 RUST
- 8 TURQUOISE
- 9 OLIVE GREEN
- 10 PURPLE/LAVENDER
- 11 IVORY/BEIGE
- 12 SEPIA BROWN
- 13 I LIKE ALL THESE COLORS

Q-7 Look at the eight colors on board 1 and decide which color you like best. DO NOT try to associate the color with something else, such as clothing, furnishings, or automobiles, etc. Just choose the color for which you have the most sympathy. Then rank the eight colors in the order you prefer them, with 1 representing the most liked color and 8 the least liked color.

<u>Color</u>	<u>Rank</u>
GRAY	_____
BLUE	_____
GREEN	_____
RED	_____
YELLOW	_____
VIOLET	_____
RUST	_____
BLACK	_____

Q-8 How often do you remodel or redecorate your living room?
(Circle number)

- 1 EVERY 1-2 YEARS
- 2 3-5 YEARS
- 3 6-10 YEARS
- 4 11-15 YEARS
- 5 16-20 YEARS
- 6 OVER 20 YEARS
- 7 HAVE NOT REMODELED OR REDECORATED LIVING ROOM
- 8 NOT APPLICABLE

Q-9 When you remodeled or redecorated your living room did it involve a change in color: (Circle number)

- 1 YES
- 2 NO
- 3 NOT APPLICABLE

Q-10 What color(s) is your living room presently decorated in?
(Circle number)

- 1 GRAY
- 2 BLUE
- 3 GREEN
- 4 RED
- 5 ORANGE
- 6 YELLOW
- 7 GOLD
- 8 RUST
- 9 BLACK
- 10 WHITE
- 11 PINK
- 12 TURQUOISE
- 13 OLIVE GREEN
- 14 PURPLE/LAVENDER
- 15 IVORY/BEIGE
- 16 BROWN
- 17 OTHER...(specify)_____

Board 2 Gray

Q-11 Would you enjoy having your living room decorated in this color?
(Circle number)

- 1 YES
- 2 NO

Q-12 Would you enjoy having another room of your home decorated in
this color? (Circle number)

- 1 YES
- 2 NO

Board 3 Blue

Q-13 Would you enjoy having your living room decorated in this color?
(Circle number)

- 1 YES
- 2 NO

Q-14 Would you enjoy having another room of your home decorated in
this color? (Circle number)

- 1 YES
- 2 NO

Board 4 Green

Q-15 Would you enjoy having your living room decorated in this color?
(Circle number)

- 1 YES
- 2 NO

Board 4 Green continued

Q-16 Would you enjoy having another room in your home decorated in this color? (Circle number)

- 1 YES
- 2 NO

Board 5 Red Orange

Q-17 Would you enjoy having your living room decorated in this color? (Circle Number)

- 1 YES
- 2 NO

Q-18 Would you enjoy having another room of your home decorated in this color? (Circle number)

- 1 YES
- 2 NO

Board 6 Yellow

Q-19 Would you enjoy having your living room decorated in this color? (Circle number)

- 1 YES
- 2 NO

Q-20 Would you enjoy having another room of your home decorated in this color? (Circle number)

- 1 YES
- 2 NO

Board 7 Red/Pink

Q-21 Would you enjoy having your living room decorated in this color? (Circle number)

- 1 YES
- 2 NO

Q-22 Would you enjoy having another room of your home decorated in this color? (Circle number)

- 1 YES
- 2 NO

Board 8 Rust

Q-23 Would you enjoy having your living room decorated in this color? (Circle number)

- 1 YES
- 2 NO

Board 8 Rust continued

Q-24 Would you enjoy having another room of your home decorated in this color? (Circle number)

- 1 YES
- 2 NO

Board 9 Turquoise

Q-25 Would you enjoy having your living room decorated in this color? (Circle number)

- 1 YES
- 2 NO

Q-26 Would you enjoy having another room of your home decorated in this color? (Circle number)

- 1 YES
- 2 NO

Board 10 Olive Green

Q-27 Would you enjoy having your living room decorated in this color? (Circle number)

- 1 YES
- 2 NO

Q-28 Would you enjoy having another room of your home decorated in this color? (Circle number)

- 1 YES
- 2 NO

Board 11 Purple/Lavender

Q-29 Would you enjoy having your living room decorated in this color? (Circle number)

- 1 YES
- 2 NO

Q-30 Would you enjoy having another room of your home decorated in this color? (Circle number)

- 1 YES
- 2 NO

Board 12 Ivory/Beige

Q-31 Would you enjoy having your living room decorated in this color? (Circle number)

- 1 YES
- 2 NO

Board 12 Ivory/Beige continued

Q-32 Would you enjoy having another room of your home decorated in this color? (Circle number)

- 1 YES
2 NO

Board 13 Sepia Brown

Q-33 Would you enjoy having your living room decorated in this color? (Circle number)

- 1 YES
2 NO

Q-34 Would you enjoy having another room of your home decorated in this color? (Circle number)

- 1 YES
2 NO

Q-35 Please rank the 12 color schemes, (boards 2 thru 13) according to your own preference for these colors in your own home. Number 1 should represent your favorite color scheme and number 12 your least favorite.

<u>Color</u>	<u>Rank</u>
GRAY	_____
BLUE	_____
GREEN	_____
RED ORANGE	_____
YELLOW	_____
RED/PINK	_____
RUST	_____
TURQUOISE	_____
OLIVE GREEN	_____
PURPLE/LAVENDER	_____
IVORY/BEIGE	_____
SEPIA BROWN	_____

INSTRUCTIONS for next two (2) pages

Please answer each question by marking an beside the "YES" or the "NO" following the question. There are no right or wrong answers, and no trick questions. Work quickly and do not think too long about the exact meaning of the question.

PLEASE REMEMBER TO ANSWER EACH QUESTION

IN EVERY QUESTION, MARK JUST ONE BOX.

1. Do you have many different hobbies? YES NO
2. Do you stop to think things over before doing anything? YES NO
3. Does your mood often go up and down? YES NO
4. Have you ever taken the praise for something you knew someone else had really done? YES NO
5. Are you a talkative person? YES NO
6. Would being in debt worry you? YES NO
7. Do you ever feel "just miserable" for no reason? YES NO
8. Were you ever greedy by helping yourself to more than your share of anything? YES NO
9. Do you lock up your house carefully at night? YES NO
10. Are you rather lively? YES NO
11. Would it upset you a lot to see a child or an animal suffer? YES NO
12. Do you often worry about things you should not have done or said? YES NO
13. If you say you will do something, do you always keep your promise no matter how inconvenient it might be? YES NO
14. Can you usually let yourself go and enjoy yourself at a lively party? YES NO
15. Are you an irritable person? YES NO
16. Have you ever blamed someone for doing something you knew was really your fault? YES NO
17. Do you enjoy meeting new people? YES NO
18. Do you believe insurance plans are a good idea? YES NO
19. Are your feelings easily hurt? YES NO
20. Are *all* your habits good and desirable ones? YES NO
21. Do you tend to keep in the background on social occasions? YES NO
22. Would you take drugs which may have strange or dangerous effects? YES NO
23. Do you often feel "fed-up"? YES NO
24. Have you ever taken anything (even a pin or button) that belonged to someone else? YES NO
25. Do you like going out a lot? YES NO
26. Do you enjoy hurting people you love? YES NO
27. Are you often troubled about feelings of guilt? YES NO
28. Do you sometimes talk about things you know nothing about? YES NO
29. Do you prefer reading to meeting people? YES NO
30. Do you have enemies who want to harm you? YES NO
31. Would you call yourself a nervous person? YES NO
32. Do you have many friends? YES NO
33. Do you enjoy practical jokes that can sometimes really hurt people? YES NO
34. Are you a worrier? YES NO
35. As a child did you do as you were told immediately and without grumbling? YES NO
36. Would you call yourself happy-go-lucky? YES NO
37. Do good manners and cleanliness matter much to you? YES NO
38. Do you worry about awful things that might happen? YES NO
39. Have you ever broken or lost something belonging to someone else? YES NO
40. Do you usually take the initiative in making new friends? YES NO
41. Would you call yourself tense or "highly-strung"? YES NO
42. Are you mostly quiet when you are with other people? YES NO
43. Do you think marriage is old-fashioned and should be done away with? YES NO
44. Do you sometimes boast a little? YES NO
45. Can you easily get some life into a rather dull party? YES NO

GO RIGHT ON TO THE NEXT PAGE.

46. Do people who drive carefully annoy you? YES NO
47. Do you worry about your health? YES NO
48. Have you ever said anything bad or nasty about anyone? YES NO
49. Do you like telling jokes and funny stories to your friends? YES NO
50. Do most things taste the same to you? YES NO
51. As a child did you ever talk back to your parents? YES NO
52. Do you like mixing with people? YES NO
53. Does it worry you if you know there are mistakes in your work? YES NO
54. Do you suffer from sleeplessness? YES NO
55. Do you always wash before a meal? YES NO
56. Do you nearly always have a "ready answer" when people talk to you? YES NO
57. Do you like to arrive at appointments in plenty of time? YES NO
58. Have you often felt listless and tired for no reason? YES NO
59. Have you ever cheated at a game? YES NO
60. Do you like doing things in which you have to act quickly? YES NO
61. Is (or was) your mother a good woman? YES NO
62. Do you often feel life is very dull? YES NO
63. Have you ever taken advantage of someone? YES NO
64. Do you often take on more activities than you have time for? YES NO
65. Are there several people who keep trying to avoid you? YES NO
66. Do you worry a lot about your looks? YES NO
67. Do you think people spend too much time safeguarding their future with savings and insurances? YES NO
68. Have you ever wished that you were dead? YES NO
69. Would you dodge paying taxes if you were sure you could never be found out? YES NO
70. Can you get a party going? YES NO
71. Do you try not to be rude to people? YES NO
72. Do you worry too long after an embarrassing experience? YES NO
73. Have you ever insisted on having your own way? YES NO
74. When you catch a train do you often arrive at the last minute? YES NO
75. Do you suffer from "nerves"? YES NO
76. Do your friendships break up easily without it being your fault? YES NO
77. Do you often feel lonely? YES NO
78. Do you always practice what you preach? YES NO
79. Do you sometimes like teasing animals? YES NO
80. Are you easily hurt when people find fault with you or the work you do? YES NO
81. Have you ever been late for an appointment or work? YES NO
82. Do you like plenty of bustle and excitement around you? YES NO
83. Would you like other people to be afraid of you? YES NO
84. Are you sometimes bubbling over with energy and sometimes very sluggish? YES NO
85. Do you sometimes put off until tomorrow what you ought to do today? YES NO
86. Do other people think of you as being very lively? YES NO
87. Do people tell you a lot of lies? YES NO
88. Are you touchy about some things? YES NO
89. Are you always willing to admit it when you have made a mistake? YES NO
90. Would you feel very sorry for an animal caught in a trap? YES NO

PLEASE CHECK TO SEE THAT YOU HAVE ANSWERED ALL THE QUESTIONS

APPENDIX B

COLLECTED DATA-FREQUENCY TABLES

TABLE XII
 FREQUENCIES OF LUSCHER COLOR TEST II COLORS BY RANKS

Color	+							-	Total
	1	2	3	4	5	6	7	8	
Gray	15	19	29	15	15	10	10	6	119
Blue	47	25	18	14	8	3	4	-	119
Green	7	15	12	23	20	15	13	14	119
Red Or	7	10	7	14	20	20	26	15	119
Yellow	20	18	23	17	13	14	8	6	119
Violet	22	25	15	16	15	14	8	4	119
Rust	1	2	8	6	14	20	25	43	119
Black	-	5	7	14	14	23	25	31	119

TABLE XIII
 FREQUENCIES BY OSGOOD RANK OF TWELVE LIVING ROOM
 ENVIRONMENTS

Color	unappealing					appealing		Total
	1	2	3	4	5	6	7	
Gray	11	7	11	24	20	32	14	119
Blue	5	11	10	10	29	36	18	119
Green	21	20	25	20	14	13	6	119
Red/Or	45	30	19	12	4	5	4	119
Yellow	34	28	25	10	14	8	-	119
Red/Pink	39	20	23	14	11	9	3	119
Rust	18	15	18	15	28	20	5	119
Turquoise	33	22	18	20	11	12	3	119
Olive Gr	73	24	4	6	4	6	2	119
Purple/Lav	41	21	15	18	15	7	2	119
Ivory/Beige	4	4	7	11	15	41	37	119
Cocoa Brown	11	13	12	15	23	31	14	119

TABLES XIV
 DISTRIBUTION OF EXTRAVERSION SCORES,
 FREQUENCIES, AND PERCENTAGES

E Score	Frequency	Percent
2	1	.8
4	2	1.7
5	3	2.5
6	3	2.5
7	2	1.7
8	2	1.7
9	8	6.7
10	9	7.6
11	9	7.6
12	7	5.9
13	13	10.9
14	13	10.9
15	10	8.4
16	15	12.6
17	9	7.6
18	6	5.0
19	4	3.4
20	1	.8
21	2	1.7

VITA

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